



CDW CONSULTANTS, INC.
CIVIL & ENVIRONMENTAL ENGINEERS

FINAL OSC REMOVAL ACTION REPORT
BJAT, LLC Superfund Site AOC Removal Action
300 Fisher Street, Franklin, Massachusetts

For submittal to:

EPA New England, Region 1
5 Post Office Square, Suite 100
Boston, Massachusetts
(617) 981-0111

Prepared by:
CDW Consultants, Inc.
6 Huron Drive
Natick, Massachusetts
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May 2019
CDW Project #1515.20

APPENDIX C

Laboratory Report SC50776

CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760
Attn: Susan Cahalan-Roach

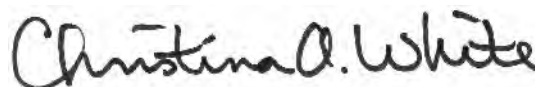
Project: BTAT LLC Superfund Site - Franklin, MA
Project #: 1515.20

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393



Authorized by:
Christina White
Technical Director



Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.

Please note that this report contains 20 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our Quality web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Laboratory Report SC50777

CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760
Attn: Susan Cahalan-Roach

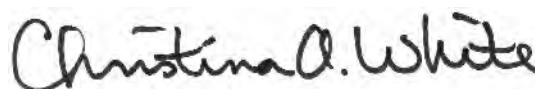
Project: BTAT LLC Superfund Site - Franklin, MA
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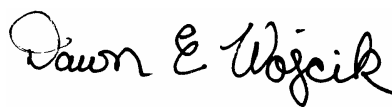
Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC50777
Project: BTAT LLC Superfund Site - Franklin, MA
Project Number: 1515.20

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SC50777-01	CDW-S-1(0'-1.5')	Soil	27-Sep-18 14:08	02-Oct-18 15:12
SC50777-02	CDW-S-1(1.5'-3.5')	Soil	27-Sep-18 14:15	02-Oct-18 15:12
SC50777-03	CDW-S-2(0'-1.5')	Soil	27-Sep-18 14:20	02-Oct-18 15:12
SC50777-04	CDW-S-2(1.5'-3.5')	Soil	27-Sep-18 14:27	02-Oct-18 15:12
SC50777-05	CDW-S-3(0'-1.5')	Soil	27-Sep-18 14:34	02-Oct-18 15:12
SC50777-06	CDW-S-3(1.5'-3.5')	Soil	27-Sep-18 14:42	02-Oct-18 15:12
SC50777-07	CDW-S-4(3.5')	Soil	27-Sep-18 14:51	02-Oct-18 15:12
SC50777-08	CDW-S-5(0'-1.5')	Soil	27-Sep-18 15:02	02-Oct-18 15:12
SC50777-09	CDW-S-5(1.5'-3.5')	Soil	27-Sep-18 15:09	02-Oct-18 15:12
SC50777-10	CDW-S-6(3.5')	Soil	27-Sep-18 15:15	02-Oct-18 15:12
SC50777-11	CDW-S-7(0'-1.5')	Soil	27-Sep-18 15:22	02-Oct-18 15:12
SC50777-12	CDW-S-7(1.5'-3.5')	Soil	27-Sep-18 15:30	02-Oct-18 15:12
SC50777-13	CDW-S-8(0'-1.5')	Soil	27-Sep-18 15:35	02-Oct-18 15:12
SC50777-14	CDW-S-8(1.5'-3.5')	Soil	27-Sep-18 15:40	02-Oct-18 15:12
SC50777-15	CDW-S-9(3.5')	Soil	27-Sep-18 15:55	02-Oct-18 15:12
SC50777-16	CDW-S-10(0'-1.5')	Soil	27-Sep-18 16:05	02-Oct-18 15:12
SC50777-17	CDW-S-10(1.5'-3.5')	Soil	27-Sep-18 16:15	02-Oct-18 15:12

MassDEP Analytical Protocol Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.			Project #: 1515.20		
Project Location: BTAT LLC Superfund Site - Franklin, MA			RTN:		
This form provides certifications for the following data set:			SC50777-01 through SC50777-17		
Matrices: Soil					
CAM Protocol					
8260 VOC CAM II A	✓ 7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
✓ 6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	✓ 9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B
<i>Affirmative responses to questions A through F are required for Presumptive Certainty's status</i>					
A	Were all samples received in a condition consistent with those described on the Chain of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?				✓ Yes No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?				✓ Yes No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?				✓ Yes No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?				✓ Yes No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?				Yes No Yes No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to questions A through E)?				✓ Yes No
<i>Responses to questions G, H and I below are required for Presumptive Certainty's status</i>					
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?				Yes ✓ No
Data User Note: Data that achieve Presumptive Certainty's status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.					
H	Were all QC performance standards specified in the CAM protocol(s) achieved?				Yes ✓ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?				Yes ✓ No
<i>All negative responses are addressed in a case narrative on the cover page of this report.</i>					
<p><i>I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.</i></p> <div style="text-align: right; margin-top: 20px;">  Dawn E. Wojcik Laboratory Director Date: 10/5/2018 </div>					

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 1.3 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 6010C

Spikes:

1813236-MS1 *Source: SC50777-01*

Due to noted non-homogeneity of the QC sample matrix, the MS/MSD and/or PS did not provide reliable results for accuracy and precision. Sample results for the QC batch were accepted based on LCS/LCSD percent recoveries and RPD values.

Antimony
Barium
Lead

1813236-MSD1 *Source: SC50777-01*

Due to noted non-homogeneity of the QC sample matrix, the MS/MSD and/or PS did not provide reliable results for accuracy and precision. Sample results for the QC batch were accepted based on LCS/LCSD percent recoveries and RPD values.

Antimony
Barium
Lead

1813236-PS1 *Source: SC50777-01*

Due to noted non-homogeneity of the QC sample matrix, the MS/MSD and/or PS did not provide reliable results for accuracy and precision. Sample results for the QC batch were accepted based on LCS/LCSD percent recoveries and RPD values.

Barium
Lead

SW846 7471B

Spikes:

1813238-MS1 *Source: SC50777-01*

SW846 7471B

Spikes:

1813238-MS1 *Source: SC50777-01*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Mercury

1813238-MSD1 *Source: SC50777-01*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Mercury

1813238-PS1 *Source: SC50777-01*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Mercury

Duplicates:

1813238-DUP1 *Source: SC50777-01*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

The RPD exceeded the QC control limits; however precision is demonstrated with acceptable RPD values for MS/MSD.

Mercury

Samples:

SC50777-01 *CDW-S-1(0'-1.5')*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50777-02 *CDW-S-1(1.5'-3.5')*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50777-03 *CDW-S-2(0'-1.5')*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50777-06 *CDW-S-3(1.5'-3.5')*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SW846 7471B**Samples:**

SC50777-08 *CDW-S-5(0'-1.5')*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50777-09 *CDW-S-5(1.5'-3.5')*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50777-10 *CDW-S-6(3.5')*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50777-13 *CDW-S-8(0'-1.5')*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50777-16 *CDW-S-10(0'-1.5')*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

Sample Acceptance Check Form

Client: CDW Consultants, Inc.
Project: BTAT LLC Superfund Site - Franklin, MA / 1515.20
Work Order: SC50777
Sample(s) received on: 10/2/2018

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Were custody seals present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were custody seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Were samples received at a temperature of $\leq 6^{\circ}\text{C}$?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples refrigerated upon transfer to laboratory representative?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were sample containers received intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples accompanied by a Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did sample container labels agree with Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples received within method-specific holding times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Summary of Hits

Lab ID: SC50777-01

Client ID: CDW-S-1(0'-1.5')

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	12.7		1.65	mg/kg	SW846 6010C
Barium	1050		1.10	mg/kg	SW846 6010C
Cadmium	1.26		0.551	mg/kg	SW846 6010C
Chromium	9.33		1.10	mg/kg	SW846 6010C
Lead	1450		1.65	mg/kg	SW846 6010C
Mercury	2.10	GS1, D0.299		mg/kg	SW846 7471B

Lab ID: SC50777-02

Client ID: CDW-S-1(1.5'-3.5')

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	10.6		6.38	mg/kg	SW846 6010C
Arsenic	8.39		1.92	mg/kg	SW846 6010C
Barium	1240		1.28	mg/kg	SW846 6010C
Cadmium	1.49		0.638	mg/kg	SW846 6010C
Chromium	8.61		1.28	mg/kg	SW846 6010C
Lead	2550		1.92	mg/kg	SW846 6010C
Mercury	2.74	GS1, D0.189		mg/kg	SW846 7471B
Cyanide (total)	0.611		0.432	mg/kg	SW846 9012B

Lab ID: SC50777-03

Client ID: CDW-S-2(0'-1.5')

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	13.7		1.73	mg/kg	SW846 6010C
Barium	1120		1.15	mg/kg	SW846 6010C
Cadmium	1.36		0.577	mg/kg	SW846 6010C
Chromium	6.80		1.15	mg/kg	SW846 6010C
Lead	1260		1.73	mg/kg	SW846 6010C
Mercury	4.52	GS1, D0.694		mg/kg	SW846 7471B

Lab ID: SC50777-04

Client ID: CDW-S-2(1.5'-3.5')

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	32.7		1.77	mg/kg	SW846 6010C
Barium	553		1.18	mg/kg	SW846 6010C
Cadmium	0.597		0.591	mg/kg	SW846 6010C
Chromium	7.16		1.18	mg/kg	SW846 6010C
Lead	674		1.77	mg/kg	SW846 6010C
Mercury	0.650		0.0353	mg/kg	SW846 7471B

Lab ID: SC50777-05**Client ID:** CDW-S-3(0'-1.5')

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	23.4		1.73	mg/kg	SW846 6010C
Barium	1180		1.15	mg/kg	SW846 6010C
Cadmium	1.11		0.576	mg/kg	SW846 6010C
Chromium	7.76		1.15	mg/kg	SW846 6010C
Lead	773		1.73	mg/kg	SW846 6010C
Mercury	0.393		0.0346	mg/kg	SW846 7471B

Lab ID: SC50777-06**Client ID:** CDW-S-3(1.5'-3.5')

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	22.5		1.79	mg/kg	SW846 6010C
Barium	1600		1.20	mg/kg	SW846 6010C
Cadmium	1.71		0.598	mg/kg	SW846 6010C
Chromium	8.22		1.20	mg/kg	SW846 6010C
Lead	926		1.79	mg/kg	SW846 6010C
Mercury	1.90	GS1, D0.191		mg/kg	SW846 7471B

Lab ID: SC50777-07**Client ID:** CDW-S-4(3.5')

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	24.0		1.72	mg/kg	SW846 6010C
Barium	805		1.15	mg/kg	SW846 6010C
Cadmium	1.00		0.574	mg/kg	SW846 6010C
Chromium	6.77		1.15	mg/kg	SW846 6010C
Lead	562		1.72	mg/kg	SW846 6010C
Mercury	0.524		0.0303	mg/kg	SW846 7471B

Lab ID: SC50777-08**Client ID:** CDW-S-5(0'-1.5')

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	10.8		1.70	mg/kg	SW846 6010C
Barium	940		1.13	mg/kg	SW846 6010C
Cadmium	0.985		0.566	mg/kg	SW846 6010C
Chromium	10.6		1.13	mg/kg	SW846 6010C
Lead	1950		1.70	mg/kg	SW846 6010C
Mercury	9.86	GS1, D0.682		mg/kg	SW846 7471B

Lab ID: SC50777-09**Client ID:** CDW-S-5(1.5'-3.5')

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	6.86		2.17	mg/kg	SW846 6010C
Barium	562		1.45	mg/kg	SW846 6010C
Cadmium	1.77		0.725	mg/kg	SW846 6010C
Chromium	9.14		1.45	mg/kg	SW846 6010C
Lead	1210		2.17	mg/kg	SW846 6010C
Mercury	1.76	GS1, D0.200		mg/kg	SW846 7471B

Lab ID: SC50777-10**Client ID:** CDW-S-6(3.5')

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	18.4		2.40	mg/kg	SW846 6010C
Barium	860		1.60	mg/kg	SW846 6010C
Cadmium	0.882		0.799	mg/kg	SW846 6010C
Chromium	8.04		1.60	mg/kg	SW846 6010C
Lead	1330		2.40	mg/kg	SW846 6010C
Mercury	3.14	GS1, D0.228		mg/kg	SW846 7471B

Lab ID: SC50777-11**Client ID:** CDW-S-7(0'-1.5')

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	7.74		1.76	mg/kg	SW846 6010C
Barium	601		1.17	mg/kg	SW846 6010C
Cadmium	1.42		0.587	mg/kg	SW846 6010C
Chromium	6.09		1.17	mg/kg	SW846 6010C
Lead	644		1.76	mg/kg	SW846 6010C
Mercury	0.537		0.0374	mg/kg	SW846 7471B

Lab ID: SC50777-12**Client ID:** CDW-S-7(1.5'-3.5')

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	21.7		1.81	mg/kg	SW846 6010C
Barium	933		1.20	mg/kg	SW846 6010C
Cadmium	2.34		0.602	mg/kg	SW846 6010C
Chromium	7.12		1.20	mg/kg	SW846 6010C
Lead	1010		1.81	mg/kg	SW846 6010C
Mercury	1.00		0.0322	mg/kg	SW846 7471B

Lab ID: SC50777-13**Client ID:** CDW-S-8(0'-1.5')

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	11.6		1.76	mg/kg	SW846 6010C
Barium	1420		1.17	mg/kg	SW846 6010C
Cadmium	1.29		0.586	mg/kg	SW846 6010C
Chromium	9.60		1.17	mg/kg	SW846 6010C
Lead	1540		1.76	mg/kg	SW846 6010C
Mercury	1.66	GS1, D0.162		mg/kg	SW846 7471B

Lab ID: SC50777-14**Client ID:** CDW-S-8(1.5'-3.5')

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	5.97		1.74	mg/kg	SW846 6010C
Barium	401		1.16	mg/kg	SW846 6010C
Chromium	8.26		1.16	mg/kg	SW846 6010C
Lead	550		1.74	mg/kg	SW846 6010C
Mercury	0.444		0.0353	mg/kg	SW846 7471B

Lab ID: SC50777-15**Client ID:** CDW-S-9(3.5')

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	11.1		1.87	mg/kg	SW846 6010C
Barium	784		1.25	mg/kg	SW846 6010C
Cadmium	1.14		0.623	mg/kg	SW846 6010C
Chromium	10.2		1.25	mg/kg	SW846 6010C
Lead	928		1.87	mg/kg	SW846 6010C
Mercury	0.806		0.0342	mg/kg	SW846 7471B

Lab ID: SC50777-16**Client ID:** CDW-S-10(0'-1.5')

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	14.0		1.85	mg/kg	SW846 6010C
Barium	1780		1.24	mg/kg	SW846 6010C
Cadmium	2.59		0.618	mg/kg	SW846 6010C
Chromium	10.4		1.24	mg/kg	SW846 6010C
Lead	1440		1.85	mg/kg	SW846 6010C
Mercury	1.91	GS1, D0.195		mg/kg	SW846 7471B
Cyanide (total)	0.642		0.428	mg/kg	SW846 9012B

Lab ID: SC50777-17**Client ID:** CDW-S-10(1.5'-3.5')

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	8.80		1.79	mg/kg	SW846 6010C
Barium	668		1.20	mg/kg	SW846 6010C
Cadmium	1.04		0.598	mg/kg	SW846 6010C
Chromium	9.21		1.20	mg/kg	SW846 6010C
Lead	1300		1.79	mg/kg	SW846 6010C
Mercury	0.683		0.0373	mg/kg	SW846 7471B

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification

CDW-S-1(0'-1.5')

SC50777-01

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

27-Sep-18 14:08

Received

02-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.65		mg/kg dry	1.65	0.179	1	SW846 6010C	03-Oct-18	04-Oct-18	SC/EDT	1813236	
7440-38-2	Arsenic	12.7		mg/kg dry	1.65	0.209	1	"	"	"	"	"	
7440-39-3	Barium	1,050		mg/kg dry	1.10	0.130	1	"	"	"	"	"	
7440-43-9	Cadmium	1.26		mg/kg dry	0.551	0.0286	1	"	"	"	"	"	
7440-47-3	Chromium	9.33		mg/kg dry	1.10	0.147	1	"	"	05-Oct-18	"	"	
7439-97-6	Mercury	2.10	GS1, D	mg/kg dry	0.299	0.0830	10	SW846 7471B	"	05-Oct-18	ABW	1813238	

Prepared by method SW846 3051A

7439-92-1	Lead	1,450		mg/kg dry	1.65	0.234	1	SW846 6010C	"	04-Oct-18	SC/EDT	1813236	
7440-36-0	Antimony	< 5.51		mg/kg dry	5.51	0.415	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.65		mg/kg dry	1.65	0.315	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	87.5		%			1	SM2540 G (11) Mod.	02-Oct-18	02-Oct-18	BD	1813196	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.298		mg/kg dry	0.298	0.235	1	SW846 9012B	03-Oct-18	04-Oct-18	RLT	1813237	
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Sample Identification

CDW-S-1(1.5'-3.5')

SC50777-02

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

27-Sep-18 14:15

Received

02-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.92		mg/kg dry	1.92	0.207	1	SW846 6010C	03-Oct-18	04-Oct-18	SC/EDT	1813236	
7440-38-2	Arsenic	8.39		mg/kg dry	1.92	0.243	1	"	"	"	"	"	
7440-39-3	Barium	1,240		mg/kg dry	1.28	0.151	1	"	"	"	"	"	
7440-43-9	Cadmium	1.49		mg/kg dry	0.638	0.0331	1	"	"	"	"	"	
7440-47-3	Chromium	8.61		mg/kg dry	1.28	0.170	1	"	"	"	"	"	
7439-97-6	Mercury	2.74	GS1, D	mg/kg dry	0.189	0.0524	5	SW846 7471B	"	05-Oct-18	ABW	1813238	

Prepared by method SW846 3051A

7439-92-1	Lead	2,550		mg/kg dry	1.92	0.271	1	SW846 6010C	"	04-Oct-18	SC/EDT	1813236	
7440-36-0	Antimony	10.6		mg/kg dry	6.38	0.480	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.92		mg/kg dry	1.92	0.365	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	72.6		%				1	SM2540 G (11) Mod.	02-Oct-18	02-Oct-18	BD	1813196	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	0.611		mg/kg dry	0.432	0.341	1	SW846 9012B	03-Oct-18	04-Oct-18	RLT	1813242	
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Sample Identification

CDW-S-2(0'-1.5')

SC50777-03

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

27-Sep-18 14:20

Received

02-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 1.73		mg/kg dry	1.73	0.187	1	SW846 6010C	03-Oct-18	05-Oct-18	SC/EDT	1813236	
7440-38-2	Arsenic	13.7		mg/kg dry	1.73	0.219	1	"	"	"	"	"	
7440-39-3	Barium	1,120		mg/kg dry	1.15	0.136	1	"	"	"	"	"	
7440-43-9	Cadmium	1.36		mg/kg dry	0.577	0.0299	1	"	"	"	"	"	
7440-47-3	Chromium	6.80		mg/kg dry	1.15	0.154	1	"	"	"	"	"	
7439-97-6	Mercury	4.52	GS1, D	mg/kg dry	0.694	0.193	20	SW846 7471B	"	05-Oct-18	ABW	1813238	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	1,260		mg/kg dry	1.73	0.245	1	SW846 6010C	"	05-Oct-18	SC/EDT	1813236	
7440-36-0	Antimony	< 5.77		mg/kg dry	5.77	0.434	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.73		mg/kg dry	1.73	0.330	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	86.3		%			1	SM2540 G (11) Mod.	02-Oct-18	02-Oct-18	BD	1813196	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.328		mg/kg dry	0.328	0.259	1	SW846 9012B	03-Oct-18	04-Oct-18	RLT	1813242	

Sample Identification

CDW-S-2(1.5'-3.5')

SC50777-04

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

27-Sep-18 14:27

Received

02-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 1.77		mg/kg dry	1.77	0.192	1	SW846 6010C	03-Oct-18	05-Oct-18	SC/EDT	1813236	
7440-38-2	Arsenic	32.7		mg/kg dry	1.77	0.225	1	"	"	"	"	"	
7440-39-3	Barium	553		mg/kg dry	1.18	0.140	1	"	"	"	"	"	
7440-43-9	Cadmium	0.597		mg/kg dry	0.591	0.0306	1	"	"	"	"	"	
7440-47-3	Chromium	7.16		mg/kg dry	1.18	0.157	1	"	"	"	"	"	
7439-97-6	Mercury	0.650		mg/kg dry	0.0353	0.0098	1	SW846 7471B	"	05-Oct-18	ABW	1813238	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	674		mg/kg dry	1.77	0.251	1	SW846 6010C	"	05-Oct-18	SC/EDT	1813236	
7440-36-0	Antimony	< 5.91		mg/kg dry	5.91	0.445	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.77		mg/kg dry	1.77	0.338	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	80.3		%			1	SM2540 G (11) Mod.	02-Oct-18	02-Oct-18	BD	1813196	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.334		mg/kg dry	0.334	0.264	1	SW846 9012B	03-Oct-18	04-Oct-18	RLT	1813242	

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Sample Identification

CDW-S-3(0'-1.5')

SC50777-05

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

27-Sep-18 14:34

Received

02-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.73		mg/kg dry	1.73	0.187	1	SW846 6010C	03-Oct-18	05-Oct-18	SC/EDT	1813236	
7440-38-2	Arsenic	23.4		mg/kg dry	1.73	0.219	1	"	"	"	"	"	
7440-39-3	Barium	1,180		mg/kg dry	1.15	0.136	1	"	"	"	"	"	
7440-43-9	Cadmium	1.11		mg/kg dry	0.576	0.0299	1	"	"	"	"	"	
7440-47-3	Chromium	7.76		mg/kg dry	1.15	0.153	1	"	"	"	"	"	
7439-97-6	Mercury	0.393		mg/kg dry	0.0346	0.0096	1	SW846 7471B	"	05-Oct-18	ABW	1813238	

Prepared by method SW846 3051A

7439-92-1	Lead	773		mg/kg dry	1.73	0.244	1	SW846 6010C	"	05-Oct-18	SC/EDT	1813236	
7440-36-0	Antimony	< 5.76		mg/kg dry	5.76	0.433	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.73		mg/kg dry	1.73	0.330	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	83.5		%				1	SM2540 G (11) Mod.	02-Oct-18	02-Oct-18	BD	1813196	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.375		mg/kg dry	0.375	0.296	1	SW846 9012B	03-Oct-18	04-Oct-18	RLT	1813242	
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Sample Identification

CDW-S-3(1.5'-3.5')

SC50777-06

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

27-Sep-18 14:42

Received

02-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.79		mg/kg dry	1.79	0.194	1	SW846 6010C	03-Oct-18	05-Oct-18	SC/EDT	1813236	
7440-38-2	Arsenic	22.5		mg/kg dry	1.79	0.227	1	"	"	"	"	"	
7440-39-3	Barium	1,600		mg/kg dry	1.20	0.141	1	"	"	"	"	"	
7440-43-9	Cadmium	1.71		mg/kg dry	0.598	0.0310	1	"	"	"	"	"	
7440-47-3	Chromium	8.22		mg/kg dry	1.20	0.159	1	"	"	"	"	"	
7439-97-6	Mercury	1.90	GS1, D	mg/kg dry	0.191	0.0530	5	SW846 7471B	"	05-Oct-18	ABW	1813238	

Prepared by method SW846 3051A

7439-92-1	Lead	926		mg/kg dry	1.79	0.253	1	SW846 6010C	"	05-Oct-18	SC/EDT	1813236	
7440-36-0	Antimony	< 5.98		mg/kg dry	5.98	0.449	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.79		mg/kg dry	1.79	0.342	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	77.9		%				1	SM2540 G (11) Mod.	02-Oct-18	02-Oct-18	BD	1813202	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.458		mg/kg dry	0.458	0.362	1	SW846 9012B	03-Oct-18	04-Oct-18	RLT	1813242	
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Sample Identification

CDW-S-4(3.5')

SC50777-07

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

27-Sep-18 14:51

Received

02-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.72		mg/kg dry	1.72	0.186	1	SW846 6010C	03-Oct-18	05-Oct-18	SC/EDT	1813236	
7440-38-2	Arsenic	24.0		mg/kg dry	1.72	0.218	1	"	"	"	"	"	
7440-39-3	Barium	805		mg/kg dry	1.15	0.136	1	"	"	"	"	"	
7440-43-9	Cadmium	1.00		mg/kg dry	0.574	0.0297	1	"	"	"	"	"	
7440-47-3	Chromium	6.77		mg/kg dry	1.15	0.153	1	"	"	"	"	"	
7439-97-6	Mercury	0.524		mg/kg dry	0.0303	0.0084	1	SW846 7471B	"	05-Oct-18	ABW	1813238	

Prepared by method SW846 3051A

7439-92-1	Lead	562		mg/kg dry	1.72	0.243	1	SW846 6010C	"	05-Oct-18	SC/EDT	1813236	
7440-36-0	Antimony	< 5.74		mg/kg dry	5.74	0.432	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.72		mg/kg dry	1.72	0.328	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	85.3		%				1	SM2540 G (11) Mod.	02-Oct-18	02-Oct-18	BD	1813202	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.306		mg/kg dry	0.306	0.242	1	SW846 9012B	03-Oct-18	04-Oct-18	RLT	1813242	
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Sample Identification

CDW-S-5(0'-1.5')

SC50777-08

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

27-Sep-18 15:02

Received

02-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 1.70		mg/kg dry	1.70	0.183	1	SW846 6010C	03-Oct-18	05-Oct-18	SC/EDT	1813236	
7440-38-2	Arsenic	10.8		mg/kg dry	1.70	0.215	1	"	"	"	"	"	
7440-39-3	Barium	940		mg/kg dry	1.13	0.134	1	"	"	"	"	"	
7440-43-9	Cadmium	0.985		mg/kg dry	0.566	0.0293	1	"	"	"	"	"	
7440-47-3	Chromium	10.6		mg/kg dry	1.13	0.151	1	"	"	"	"	"	
7439-97-6	Mercury	9.86	GS1, D	mg/kg dry	0.682	0.189	20	SW846 7471B	"	05-Oct-18	ABW	1813238	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	1,950		mg/kg dry	1.70	0.240	1	SW846 6010C	"	05-Oct-18	SC/EDT	1813236	
7440-36-0	Antimony	< 5.66		mg/kg dry	5.66	0.426	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.70		mg/kg dry	1.70	0.324	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	82.6		%			1	SM2540 G (11) Mod.	02-Oct-18	02-Oct-18	BD	1813202	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.369		mg/kg dry	0.369	0.292	1	SW846 9012B	03-Oct-18	04-Oct-18	RLT	1813242	

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Sample Identification

CDW-S-5(1.5'-3.5')

SC50777-09

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

27-Sep-18 15:09

Received

02-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 2.17		mg/kg dry	2.17	0.235	1	SW846 6010C	03-Oct-18	05-Oct-18	SC/EDT	1813236	
7440-38-2	Arsenic	6.86		mg/kg dry	2.17	0.275	1	"	"	"	"	"	
7440-39-3	Barium	562		mg/kg dry	1.45	0.171	1	"	"	"	"	"	
7440-43-9	Cadmium	1.77		mg/kg dry	0.725	0.0375	1	"	"	"	"	"	
7440-47-3	Chromium	9.14		mg/kg dry	1.45	0.193	1	"	"	"	"	"	
7439-97-6	Mercury	1.76	GS1, D	mg/kg dry	0.200	0.0554	5	SW846 7471B	"	05-Oct-18	ABW	1813238	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	1,210		mg/kg dry	2.17	0.307	1	SW846 6010C	"	05-Oct-18	SC/EDT	1813236	
7440-36-0	Antimony	< 7.25		mg/kg dry	7.25	0.545	1	"	"	"	"	"	
7782-49-2	Selenium	< 2.17		mg/kg dry	2.17	0.414	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	66.6		%			1	SM2540 G (11) Mod.	02-Oct-18	02-Oct-18	BD	1813202	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.418		mg/kg dry	0.418	0.330	1	SW846 9012B	03-Oct-18	04-Oct-18	RLT	1813242	

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Sample Identification

CDW-S-6(3.5')

SC50777-10

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

27-Sep-18 15:15

Received

02-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 2.40		mg/kg dry	2.40	0.259	1	SW846 6010C	03-Oct-18	05-Oct-18	SC/EDT	1813236	
7440-38-2	Arsenic	18.4		mg/kg dry	2.40	0.304	1	"	"	"	"	"	
7440-39-3	Barium	860		mg/kg dry	1.60	0.189	1	"	"	"	"	"	
7440-43-9	Cadmium	0.882		mg/kg dry	0.799	0.0414	1	"	"	"	"	"	
7440-47-3	Chromium	8.04		mg/kg dry	1.60	0.213	1	"	"	"	"	"	
7439-97-6	Mercury	3.14	GS1, D	mg/kg dry	0.228	0.0632	5	SW846 7471B	"	05-Oct-18	ABW	1813238	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	1,330		mg/kg dry	2.40	0.339	1	SW846 6010C	"	05-Oct-18	SC/EDT	1813236	
7440-36-0	Antimony	< 7.99		mg/kg dry	7.99	0.601	1	"	"	"	"	"	
7782-49-2	Selenium	< 2.40		mg/kg dry	2.40	0.457	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	62.0		%			1	SM2540 G (11) Mod.	02-Oct-18	02-Oct-18	BD	1813202	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.458		mg/kg dry	0.458	0.362	1	SW846 9012B	03-Oct-18	04-Oct-18	RLT	1813242	

Sample Identification

CDW-S-7(0'-1.5')

SC50777-11

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

27-Sep-18 15:22

Received

02-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.76		mg/kg dry	1.76	0.190	1	SW846 6010C	03-Oct-18	05-Oct-18	SC/EDT	1813236	
7440-38-2	Arsenic	7.74		mg/kg dry	1.76	0.223	1	"	"	"	"	"	
7440-39-3	Barium	601		mg/kg dry	1.17	0.138	1	"	"	"	"	"	
7440-43-9	Cadmium	1.42		mg/kg dry	0.587	0.0304	1	"	"	"	"	"	
7440-47-3	Chromium	6.09		mg/kg dry	1.17	0.156	1	"	"	"	"	"	
7439-97-6	Mercury	0.537		mg/kg dry	0.0374	0.0104	1	SW846 7471B	"	05-Oct-18	ABW	1813238	

Prepared by method SW846 3051A

7439-92-1	Lead	644		mg/kg dry	1.76	0.249	1	SW846 6010C	"	05-Oct-18	SC/EDT	1813236	
7440-36-0	Antimony	< 5.87		mg/kg dry	5.87	0.441	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.76		mg/kg dry	1.76	0.336	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	78.6		%				1	SM2540 G (11) Mod.	02-Oct-18	02-Oct-18	BD	1813202	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.397		mg/kg dry	0.397	0.314	1	SW846 9012B	03-Oct-18	04-Oct-18	RLT	1813242	
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Sample Identification

CDW-S-7(1.5'-3.5')

SC50777-12

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

27-Sep-18 15:30

Received

02-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.81		mg/kg dry	1.81	0.195	1	SW846 6010C	03-Oct-18	05-Oct-18	SC/EDT	1813236	
7440-38-2	Arsenic	21.7		mg/kg dry	1.81	0.229	1	"	"	"	"	"	
7440-39-3	Barium	933		mg/kg dry	1.20	0.142	1	"	"	"	"	"	
7440-43-9	Cadmium	2.34		mg/kg dry	0.602	0.0312	1	"	"	"	"	"	
7440-47-3	Chromium	7.12		mg/kg dry	1.20	0.160	1	"	"	"	"	"	
7439-97-6	Mercury	1.00		mg/kg dry	0.0322	0.0089	1	SW846 7471B	"	05-Oct-18	ABW	1813238	

Prepared by method SW846 3051A

7439-92-1	Lead	1,010		mg/kg dry	1.81	0.255	1	SW846 6010C	"	05-Oct-18	SC/EDT	1813236	
7440-36-0	Antimony	< 6.02		mg/kg dry	6.02	0.453	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.81		mg/kg dry	1.81	0.344	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	82.5		%			1	SM2540 G (11) Mod.	02-Oct-18	02-Oct-18	BD	1813202	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.427		mg/kg dry	0.427	0.338	1	SW846 9012B	03-Oct-18	04-Oct-18	RLT	1813242	
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Sample Identification

CDW-S-8(0'-1.5')

SC50777-13

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

27-Sep-18 15:35

Received

02-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.76		mg/kg dry	1.76	0.190	1	SW846 6010C	03-Oct-18	05-Oct-18	SC/EDT	1813236	
7440-38-2	Arsenic	11.6		mg/kg dry	1.76	0.223	1	"	"	"	"	"	
7440-39-3	Barium	1,420		mg/kg dry	1.17	0.138	1	"	"	"	"	"	
7440-43-9	Cadmium	1.29		mg/kg dry	0.586	0.0303	1	"	"	"	"	"	
7440-47-3	Chromium	9.60		mg/kg dry	1.17	0.156	1	"	"	"	"	"	
7439-97-6	Mercury	1.66	GS1, D	mg/kg dry	0.162	0.0451	5	SW846 7471B	"	05-Oct-18	ABW	1813238	

Prepared by method SW846 3051A

7439-92-1	Lead	1,540		mg/kg dry	1.76	0.248	1	SW846 6010C	"	05-Oct-18	SC/EDT	1813236	
7440-36-0	Antimony	< 5.86		mg/kg dry	5.86	0.440	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.76		mg/kg dry	1.76	0.335	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	79.8		%				1	SM2540 G (11) Mod.	02-Oct-18	02-Oct-18	BD	1813202	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.328		mg/kg dry	0.328	0.259	1	SW846 9012B	03-Oct-18	04-Oct-18	RLT	1813242	
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Sample Identification

CDW-S-8(1.5'-3.5')

SC50777-14

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

27-Sep-18 15:40

Received

02-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.74		mg/kg dry	1.74	0.188	1	SW846 6010C	03-Oct-18	05-Oct-18	SC/EDT	1813236	
7440-38-2	Arsenic	5.97		mg/kg dry	1.74	0.221	1	"	"	"	"	"	
7440-39-3	Barium	401		mg/kg dry	1.16	0.137	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.581		mg/kg dry	0.581	0.0301	1	"	"	"	"	"	
7440-47-3	Chromium	8.26		mg/kg dry	1.16	0.155	1	"	"	"	"	"	
7439-97-6	Mercury	0.444		mg/kg dry	0.0353	0.0098	1	SW846 7471B	"	05-Oct-18	ABW	1813238	

Prepared by method SW846 3051A

7439-92-1	Lead	550		mg/kg dry	1.74	0.246	1	SW846 6010C	"	05-Oct-18	SC/EDT	1813236	
7440-36-0	Antimony	< 5.81		mg/kg dry	5.81	0.437	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.74		mg/kg dry	1.74	0.332	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	82.0		%			1	SM2540 G (11) Mod.	02-Oct-18	02-Oct-18	BD	1813202	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.362		mg/kg dry	0.362	0.286	1	SW846 9012B	03-Oct-18	04-Oct-18	RLT	1813281	
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Sample Identification

CDW-S-9(3.5')

SC50777-15

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

27-Sep-18 15:55

Received

02-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 1.87		mg/kg dry	1.87	0.202	1	SW846 6010C	03-Oct-18	05-Oct-18	SC/EDT	1813236	
7440-38-2	Arsenic	11.1		mg/kg dry	1.87	0.237	1	"	"	"	"	"	
7440-39-3	Barium	784		mg/kg dry	1.25	0.147	1	"	"	"	"	"	
7440-43-9	Cadmium	1.14		mg/kg dry	0.623	0.0323	1	"	"	"	"	"	
7440-47-3	Chromium	10.2		mg/kg dry	1.25	0.166	1	"	"	"	"	"	
7439-97-6	Mercury	0.806		mg/kg dry	0.0342	0.0095	1	SW846 7471B	"	05-Oct-18	ABW	1813238	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	928		mg/kg dry	1.87	0.264	1	SW846 6010C	"	05-Oct-18	SC/EDT	1813236	
7440-36-0	Antimony	< 6.23		mg/kg dry	6.23	0.469	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.87		mg/kg dry	1.87	0.357	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	76.9		%			1	SM2540 G (11) Mod.	02-Oct-18	02-Oct-18	BD	1813202	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.395		mg/kg dry	0.395	0.312	1	SW846 9012B	03-Oct-18	04-Oct-18	RLT	1813281	

Sample Identification

CDW-S-10(0'-1.5')

SC50777-16

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

27-Sep-18 16:05

Received

02-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.85		mg/kg dry	1.85	0.200	1	SW846 6010C	03-Oct-18	05-Oct-18	SC/EDT	1813236	
7440-38-2	Arsenic	14.0		mg/kg dry	1.85	0.235	1	"	"	"	"	"	
7440-39-3	Barium	1,780		mg/kg dry	1.24	0.146	1	"	"	"	"	"	
7440-43-9	Cadmium	2.59		mg/kg dry	0.618	0.0320	1	"	"	"	"	"	
7440-47-3	Chromium	10.4		mg/kg dry	1.24	0.164	1	"	"	"	"	"	
7439-97-6	Mercury	1.91	GS1, D	mg/kg dry	0.195	0.0542	5	SW846 7471B	"	05-Oct-18	ABW	1813238	

Prepared by method SW846 3051A

7439-92-1	Lead	1,440		mg/kg dry	1.85	0.262	1	SW846 6010C	"	05-Oct-18	SC/EDT	1813236	
7440-36-0	Antimony	< 6.18		mg/kg dry	6.18	0.465	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.85		mg/kg dry	1.85	0.353	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	74.7			%			1	SM2540 G (11) Mod.	02-Oct-18	02-Oct-18	BD	1813202	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	0.642		mg/kg dry	0.428	0.338	1	SW846 9012B	03-Oct-18	04-Oct-18	RLT	1813281	
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Sample Identification**CDW-S-10(1.5'-3.5')**

SC50777-17

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

27-Sep-18 16:15

Received

02-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.79		mg/kg dry	1.79	0.194	1	SW846 6010C	03-Oct-18	05-Oct-18	SC/EDT	1813236	
7440-38-2	Arsenic	8.80		mg/kg dry	1.79	0.227	1	"	"	"	"	"	
7440-39-3	Barium	668		mg/kg dry	1.20	0.141	1	"	"	"	"	"	
7440-43-9	Cadmium	1.04		mg/kg dry	0.598	0.0310	1	"	"	"	"	"	
7440-47-3	Chromium	9.21		mg/kg dry	1.20	0.159	1	"	"	"	"	"	
7439-97-6	Mercury	0.683		mg/kg dry	0.0373	0.0104	1	SW846 7471B	"	05-Oct-18	ABW	1813238	

Prepared by method SW846 3051A

7439-92-1	Lead	1,300		mg/kg dry	1.79	0.254	1	SW846 6010C	"	05-Oct-18	SC/EDT	1813236	
7440-36-0	Antimony	< 5.98		mg/kg dry	5.98	0.450	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.79		mg/kg dry	1.79	0.342	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	76.4		%				1	SM2540 G (11) Mod.	02-Oct-18	02-Oct-18	BD	1813202	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.398		mg/kg dry	0.398	0.315	1	SW846 9012B	03-Oct-18	04-Oct-18	RLT	1813281	
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Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW846 6010C</u>										
Batch 1813236 - SW846 3051A										
<u>Blank (1813236-BLK1)</u>					<u>Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>					
Silver	< 1.38		mg/kg wet	1.38						
Arsenic	< 1.38		mg/kg wet	1.38						
Cadmium	< 0.460		mg/kg wet	0.460						
Lead	< 1.38		mg/kg wet	1.38						
Antimony	< 4.60		mg/kg wet	4.60						
Selenium	< 1.38		mg/kg wet	1.38						
Chromium	< 0.920		mg/kg wet	0.920						
Barium	< 0.920		mg/kg wet	0.920						
<u>Duplicate (1813236-DUP1)</u>					<u>Source: SC50777-01 Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>					
Antimony	1.49	J	mg/kg dry	5.65		1.31			13	20
Silver	< 1.70		mg/kg dry	1.70		BRL				20
Arsenic	12.8		mg/kg dry	1.70		12.7			0.8	20
Lead	1740		mg/kg dry	1.70		1450			18	20
Selenium	< 1.70		mg/kg dry	1.70		0.463				20
Chromium	9.53		mg/kg dry	1.13		9.33			2	20
Cadmium	1.24		mg/kg dry	0.565		1.26			2	20
Barium	1250		mg/kg dry	1.13		1050			18	20
<u>Matrix Spike (1813236-MS1)</u>					<u>Source: SC50777-01 Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>					
Antimony	97.5	QM6	mg/kg dry	5.47	137	1.31	70	75-125		
Selenium	114		mg/kg dry	1.64	137	0.463	83	75-125		
Lead	1830	QM6	mg/kg dry	1.64	137	1450	280	75-125		
Cadmium	115		mg/kg dry	0.547	137	1.26	83	75-125		
Arsenic	125		mg/kg dry	1.64	137	12.7	82	75-125		
Silver	108		mg/kg dry	1.64	137	BRL	79	75-125		
Chromium	135		mg/kg dry	1.09	137	9.33	92	75-125		
Barium	1710	QM6	mg/kg dry	1.09	137	1050	482	75-125		
<u>Matrix Spike Dup (1813236-MSD1)</u>					<u>Source: SC50777-01 Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>					
Antimony	102	QM6	mg/kg dry	5.55	139	1.31	73	75-125	5	20
Chromium	140		mg/kg dry	1.11	139	9.33	94	75-125	3	20
Silver	111		mg/kg dry	1.66	139	BRL	80	75-125	3	20
Arsenic	131		mg/kg dry	1.66	139	12.7	85	75-125	5	20
Lead	1480	QM6	mg/kg dry	1.66	139	1450	19	75-125	22	20
Selenium	118		mg/kg dry	1.66	139	0.463	85	75-125	4	20
Cadmium	120		mg/kg dry	0.555	139	1.26	86	75-125	4	20
Barium	1160	QM6	mg/kg dry	1.11	139	1050	83	75-125	38	20
<u>Post Spike (1813236-PS1)</u>					<u>Source: SC50777-01 Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>					
Arsenic	139		mg/kg dry	1.65	138	12.7	92	80-120		
Cadmium	129		mg/kg dry	0.551	138	1.26	93	80-120		
Lead	1440	QM6	mg/kg dry	1.65	138	1450	-6	80-120		
Antimony	128		mg/kg dry	5.51	138	1.31	92	80-120		
Selenium	127		mg/kg dry	1.65	138	0.463	92	80-120		
Chromium	141		mg/kg dry	1.10	138	9.33	96	80-120		
Silver	118		mg/kg dry	1.65	138	BRL	85	80-120		
Barium	1080	QM6	mg/kg dry	1.10	138	1050	19	80-120		
<u>Reference (1813236-SRM1)</u>					<u>Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>					
Silver	18.6		mg/kg wet	1.50	21.9		85	79.9-119.9		
Selenium	85.2		mg/kg wet	1.50	96.7		88	79.6-120.9		
Antimony	15.0		mg/kg wet	5.00	38.2		39	25-196		

This laboratory report is not valid without an authorized signature on the cover page.

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW846 6010C</u>										
Batch 1813236 - SW846 3051A										
<u>Reference (1813236-SRM1)</u>	<u>Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>									
Lead	50.2		mg/kg wet	1.50	56.2		89	83-117.1		
Cadmium	95.7		mg/kg wet	0.500	107		90	83.4-116.6		
Arsenic	74.1		mg/kg wet	1.50	81.5		91	83.2-116.8		
Chromium	67.8		mg/kg wet	1.00	68.8		98	82.4-117.6		
Barium	134		mg/kg wet	1.00	132		102	82.7-117.3		
<u>Reference (1813236-SRM2)</u>	<u>Prepared: 03-Oct-18 Analyzed: 05-Oct-18</u>									
Chromium	70.0		mg/kg wet	1.00	68.3		102	82.4-117.6		
Silver	19.8		mg/kg wet	1.50	21.7		91	79.9-119.9		
Selenium	90.6		mg/kg wet	1.50	95.9		94	79.6-120.9		
Antimony	15.8		mg/kg wet	5.00	37.9		42	25-196		
Lead	52.1		mg/kg wet	1.50	55.7		93	83-117.1		
Cadmium	103		mg/kg wet	0.500	106		97	83.4-116.6		
Arsenic	79.1		mg/kg wet	1.50	80.8		98	83.2-116.8		
Barium	141		mg/kg wet	1.00	131		108	82.7-117.3		
<u>SW846 7471B</u>										
Batch 1813238 - EPA200/SW7000 Series										
<u>Blank (1813238-BLK1)</u>	<u>Prepared: 03-Oct-18 Analyzed: 05-Oct-18</u>									
Mercury	< 0.0267		mg/kg wet	0.0267						
<u>Duplicate (1813238-DUP1)</u>	<u>Source: SC50777-01 Prepared: 03-Oct-18 Analyzed: 05-Oct-18</u>									
Mercury	3.86	GS1, QR6, D	mg/kg dry	0.331		2.10			59	20
<u>Matrix Spike (1813238-MS1)</u>	<u>Source: SC50777-01 Prepared: 03-Oct-18 Analyzed: 05-Oct-18</u>									
Mercury	1.95	GS1, QM2, D	mg/kg dry	0.296	0.205	2.10	-73	75-125		
<u>Matrix Spike Dup (1813238-MSD1)</u>	<u>Source: SC50777-01 Prepared: 03-Oct-18 Analyzed: 05-Oct-18</u>									
Mercury	2.32	GS1, QM2, D	mg/kg dry	0.309	0.215	2.10	102	75-125	17	20
<u>Post Spike (1813238-PS1)</u>	<u>Source: SC50777-01 Prepared: 03-Oct-18 Analyzed: 05-Oct-18</u>									
Mercury	4.62	GS1, QM2, D	mg/kg dry	0.299	2.08	2.10	121	80-120		
<u>Reference (1813238-SRM1)</u>	<u>Prepared: 03-Oct-18 Analyzed: 05-Oct-18</u>									
Mercury	4.55	D	mg/kg wet	0.600	3.95		115	71.6-128		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SM2540 G (11) Mod.</u>										
Batch 1813202 - General Preparation										
<u>Duplicate (1813202-DUP1)</u>						<u>Source: SC50777-06</u>		<u>Prepared & Analyzed: 02-Oct-18</u>		
% Solids	77.9		%			77.9			0.1	5
<u>Duplicate (1813202-DUP2)</u>						<u>Source: SC50777-07</u>		<u>Prepared & Analyzed: 02-Oct-18</u>		
% Solids	85.4		%			85.3			0.2	5
<u>SW846 9012B</u>										
Batch 1813237 - General Preparation										
<u>Blank (1813237-BLK1)</u>								<u>Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>		
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>Blank (1813237-BLK2)</u>								<u>Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>		
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>LCS (1813237-BS1)</u>								<u>Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>		
Cyanide (total)	25.2		mg/kg wet	0.500	25.0		101	90-110		
<u>LCS (1813237-BS2)</u>								<u>Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>		
Cyanide (total)	25.6		mg/kg wet	0.500	25.0		102	90-110		
<u>Calibration Blank (1813237-CCB1)</u>								<u>Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>		
Cyanide (total)	-0.00161		mg/kg wet							
<u>Calibration Blank (1813237-CCB2)</u>								<u>Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>		
Cyanide (total)	-0.000818		mg/kg wet							
<u>Calibration Blank (1813237-CCB3)</u>								<u>Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>		
Cyanide (total)	0.0000287		mg/kg wet							
<u>Calibration Check (1813237-CCV1)</u>								<u>Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>		
Cyanide (total)	25.9		mg/kg wet	0.500	25.0		104	90-110		
<u>Calibration Check (1813237-CCV2)</u>								<u>Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>		
Cyanide (total)	25.9		mg/kg wet	0.500	25.0		104	90-110		
<u>Calibration Check (1813237-CCV3)</u>								<u>Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>		
Cyanide (total)	25.3		mg/kg wet	0.500	25.0		101	90-110		
<u>Reference (1813237-SRM1)</u>								<u>Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>		
Cyanide (total)	79.3		mg/kg wet	1.83	94.3		84	22.3-116		
Batch 1813242 - General Preparation										
<u>Blank (1813242-BLK1)</u>								<u>Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>		
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>Blank (1813242-BLK2)</u>								<u>Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>		
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>LCS (1813242-BS1)</u>								<u>Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>		
Cyanide (total)	25.4		mg/kg wet	0.500	25.0		102	90-110		
<u>LCS (1813242-BS2)</u>								<u>Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>		
Cyanide (total)	26.5		mg/kg wet	0.500	25.0		106	90-110		
<u>Calibration Blank (1813242-CCB1)</u>								<u>Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>		
Cyanide (total)	0.000599		mg/kg wet							
<u>Calibration Blank (1813242-CCB2)</u>								<u>Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>		
Cyanide (total)	0.000766		mg/kg wet							
<u>Calibration Blank (1813242-CCB3)</u>								<u>Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>		
Cyanide (total)	-0.000292		mg/kg wet							
<u>Calibration Check (1813242-CCV1)</u>								<u>Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>		
Cyanide (total)	25.7		mg/kg wet	0.500	25.0		103	90-110		
<u>Calibration Check (1813242-CCV2)</u>								<u>Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>		
Cyanide (total)	25.9		mg/kg wet	0.500	25.0		104	90-110		
<u>Calibration Check (1813242-CCV3)</u>								<u>Prepared: 03-Oct-18 Analyzed: 04-Oct-18</u>		

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General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 9012B										
Batch 1813242 - General Preparation										
<u>Calibration Check (1813242-CCV3)</u>								Prepared: 03-Oct-18 Analyzed: 04-Oct-18		
Cyanide (total)	26.0		mg/kg wet	0.500	25.0		104	90-110		
<u>Duplicate (1813242-DUP1)</u>								Prepared: 03-Oct-18 Analyzed: 04-Oct-18		
Cyanide (total)	< 0.427		mg/kg dry	0.427		BRL				35
<u>Matrix Spike (1813242-MS1)</u>								Prepared: 03-Oct-18 Analyzed: 04-Oct-18		
Cyanide (total)	27.0		mg/kg dry	0.500	25.0	BRL	108	90-110		
<u>Matrix Spike Dup (1813242-MSD1)</u>								Prepared: 03-Oct-18 Analyzed: 04-Oct-18		
Cyanide (total)	26.7		mg/kg dry	0.489	24.4	BRL	109	90-110	1	35
<u>Reference (1813242-SRM1)</u>								Prepared: 03-Oct-18 Analyzed: 04-Oct-18		
Cyanide (total)	82.1		mg/kg wet	1.29	94.3		87	22.3-116		
Batch 1813281 - General Preparation										
<u>Blank (1813281-BLK1)</u>								Prepared: 03-Oct-18 Analyzed: 04-Oct-18		
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>LCS (1813281-BS1)</u>								Prepared: 03-Oct-18 Analyzed: 04-Oct-18		
Cyanide (total)	26.4		mg/kg wet	0.500	25.0		106	90-110		
<u>Calibration Blank (1813281-CCB1)</u>								Prepared: 03-Oct-18 Analyzed: 04-Oct-18		
Cyanide (total)	-0.000292		mg/kg wet							
<u>Calibration Blank (1813281-CCB2)</u>								Prepared: 03-Oct-18 Analyzed: 04-Oct-18		
Cyanide (total)	0.000520		mg/kg wet							
<u>Calibration Check (1813281-CCV1)</u>								Prepared: 03-Oct-18 Analyzed: 04-Oct-18		
Cyanide (total)	26.0		mg/kg wet	0.500	25.0		104	90-110		
<u>Calibration Check (1813281-CCV2)</u>								Prepared: 03-Oct-18 Analyzed: 04-Oct-18		
Cyanide (total)	25.9		mg/kg wet	0.500	25.0		104	90-110		
<u>Duplicate (1813281-DUP1)</u>								Prepared: 03-Oct-18 Analyzed: 04-Oct-18		
Cyanide (total)	< 0.348		mg/kg dry	0.348		BRL				35
<u>Matrix Spike (1813281-MS1)</u>								Prepared: 03-Oct-18 Analyzed: 04-Oct-18		
Cyanide (total)	19.3		mg/kg dry	0.366	18.3	BRL	105	90-110		
<u>Matrix Spike Dup (1813281-MSD1)</u>								Prepared: 03-Oct-18 Analyzed: 04-Oct-18		
Cyanide (total)	18.6		mg/kg dry	0.379	18.9	BRL	98	90-110	3	35
<u>Reference (1813281-SRM1)</u>								Prepared: 03-Oct-18 Analyzed: 04-Oct-18		
Cyanide (total)	80.9		mg/kg wet	1.95	94.3		86	22.3-116		

Notes and Definitions

D	Data reported from a dilution
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
QM2	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
QM6	Due to noted non-homogeneity of the QC sample matrix, the MS/MSD and/or PS did not provide reliable results for accuracy and precision. Sample results for the QC batch were accepted based on LCS/LCSD percent recoveries and RPD values.
QR6	The RPD exceeded the QC control limits; however precision is demonstrated with acceptable RPD values for MS/MSD.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.



Spectrum Analytical

CHAIN OF CUSTODY RECORD

Page 1 of 2

Special Handling:

- ☐ Standard TAT - 7 to 10 business days
☒ Rush TAT - Date Needed: _____

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: Debrah CahalanInvoice To: CDU ConsultantsProject No: 1515-20

CDU Consultants

16 Huxon Drive

BHT LLC Superfund Site EPA

16 Huxon Drive

Natick MA 01760

300 Fisher St, Franklin State MA

Natick, MA 01760

Natick MA 01760

Paul Dufreno CD

Telephone #: 508 875 2657 x125

P.O. No.: _____

Date #: _____

Paul Dufreno CD

F=Field Extracted 1-Na₂S₂O₃ 2-HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=Ascorbic Acid
7=CH₃OH 8=NaHSO₃ 9=Deionized Water 10=H₂O₂ 11=Ac 12=

DW-Drinking Water GW-Groundwater SW=Surface Water WW=Waste Water

O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas

X1= _____ X2= _____ X3= _____

C=Grab

C=Composite

Lab ID:

Sample ID:

Date:

Time:

Type

Matrix

of VOA Vials
of Amber Glass
of Clear Glass
of Plastic+ RCPA & Metals
+ Antimony
+ Cyanide

Check if chlorinated

QA/QC Reporting Notes:
*additional charges only apply

NA DER MCL CAM Report? ☒ Yes ☐ No
CT DRI RCT Report? ☐ Yes ☐ No
Standard ☐ No QC
DQA* ☐ No QC
DSP A* ☐ DSP B* ☐ DSP C*
DU Reduced* ☐ DU Full* ☐ DU TV*
Dier II* ☐ Dier IV* ☐ Other: _____
Time-specific reporting standards: _____

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Containers	Analysis	Check if chlorinated	QA/QC Reporting Notes:
SC50777A	CDU-S-1 (2.5)	9/27/13	14:02	C	So	1	1						
02	CDU-S-1 (1.5-3.5)		14:15										
03	CDU-S-2 (0-1.5)		14:20										
04	CDU-S-2 (1.5-3.5)		14:24										
05	CDU-S-3 (0-1.5)		14:34										
06	CDU-S-3 (1.5-3.5)		14:42										
07	CDU-S-4 (0-1.5)		14:51										
08	CDU-S-5 (0-1.5)		15:02										
09	CDU-S-5 (1.5-3.5)		15:09										
10	CDU-S-6 (3.5)		15:15										
11	CDU-S-6 (3.5)		15:15										
12	CDU-S-6 (3.5)		15:15										
13	CDU-S-6 (3.5)		15:15										
14	CDU-S-6 (3.5)		15:15										
15	CDU-S-6 (3.5)		15:15										
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80	CDU-S-6 (3.5)		15:15										
81	CDU-S-6 (3.5)		15:15										
82	CDU-S-6 (3.5)		15:15										
83	CDU-S-6 (3.5)		15:15										
84	CDU-S-6 (3.5)		15:15										
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87	CDU-S-6 (3.5)		15:15										
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89	CDU-S-6 (3.5)		15:15										
90	CDU-S-6 (3.5)		15:15										
91	CDU-S-6 (3.5)		15:15										
92	CDU-S-6 (3.5)		15:15										
93	CDU-S-6 (3.5)		15:15										
94	CDU-S-6 (3.5)		15:15										
95	CDU-S-6 (3.5)		15:15										
96	CDU-S-6 (3.5)		15:15										
97	CDU-S-6 (3.5)		15:15										
98	CDU-S-6 (3.5)		15:15										
99	CDU-S-6 (3.5)		15:15										
100	CDU-S-6 (3.5)		15:15										

Released by: _____

Received by: _____

Date: _____

Time: _____

Temp °C

EUD format:

E-mail to: Stahlman@cdconsultants.com

Paul Stahlman

Paul Stahlman

10/21/13 11:00

1.3

Condition upon receipt: ☐ Preserved ☐ Unaltered ☐ BrokenSample(s): ☐ Ambient ☐ Top ☒ Refrigerated ☐ On VOA Frozen ☐ Soil Jar Frozen



Spectrum Analytical

CHAIN OF CUSTODY RECORD

Page 2 of 2

Special Handling:

- ☐ Standard TAT - 7 to 10 business days
☒ Rush TAT - Date Needed: _____

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: John CalahanInvoice To: CD ConsultantsProject No: 15K-206 Haven DriveNatick, MA 01760

Site Name:

ISAAT LLC Superfund Site EPA
300 Fisher St, Framingham MA
Paul Lapiano CDULocation:
Sample(s):Telephone #: 508.875.8654

P.O. No.:

Quote #:

F=Field Filtered 1= $\text{Na}_2\text{S}_2\text{O}_3$ 2=HCl 3= H_2SO_4 4= HNO_3 5= NaOH 6=Ascorbic Acid
7= CH_3OH 8= NaHSO_4 9=Deionized Water 10= LiPO_4 11=40C 12=25

List Preservative Code below:

QA/QC Reporting Notes:
* additional charges may applyDW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas

X1= _____ X2= _____ X3= _____

G=Grab

C=Composite

Lab ID:

Sample ID:

Date:

Time:

Type

Matrix

of VOA Vials

of Amber Glass

of Clear Glass

of Plastic

RCRA Metals

Antimony

Lead

Check if chlorinated

- MA DEP MCH CAM Report? ☒ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC
☐ DGA* ☐ ASP B*
☐ ASP A* ☐ NJ Reduced*
☐ Drier II* ☐ Drier IV*
☐ Other: _____
Site-specific reporting standards: _____

Relinquished by:

Received by:

Date:

Time:

Temp °C

ETD format:

E-mail to:

JohnCalahan@cdconsultants.comJohn CalahanJohn Calahan10/21/18 11:00
10/22/18 15:12

Condition upon receipt: Custody Seals:

☐ Ambient ☐ Ice ☒ Refrigerated ☐ Dry VOA Frozen ☐ Soil Not Frozen

Batch Summary

1813196

General Chemistry Parameters

SC50777-01 (CDW-S-1(0'-1.5'))
SC50777-02 (CDW-S-1(1.5'-3.5'))
SC50777-03 (CDW-S-2(0'-1.5'))
SC50777-04 (CDW-S-2(1.5'-3.5'))
SC50777-05 (CDW-S-3(0'-1.5'))

1813202

General Chemistry Parameters

1813202-DUP1
1813202-DUP2
SC50777-06 (CDW-S-3(1.5'-3.5'))
SC50777-07 (CDW-S-4(3.5'))
SC50777-08 (CDW-S-5(0'-1.5'))
SC50777-09 (CDW-S-5(1.5'-3.5'))
SC50777-10 (CDW-S-6(3.5'))
SC50777-11 (CDW-S-7(0'-1.5'))
SC50777-12 (CDW-S-7(1.5'-3.5'))
SC50777-13 (CDW-S-8(0'-1.5'))
SC50777-14 (CDW-S-8(1.5'-3.5'))
SC50777-15 (CDW-S-9(3.5'))
SC50777-16 (CDW-S-10(0'-1.5'))
SC50777-17 (CDW-S-10(1.5'-3.5'))

1813236

Total Metals by EPA 6000/7000 Series Methods

1813236-BLK1
1813236-DUP1
1813236-MS1
1813236-MSD1
1813236-PS1
1813236-SRM1
1813236-SRM2
SC50777-01 (CDW-S-1(0'-1.5'))
SC50777-02 (CDW-S-1(1.5'-3.5'))
SC50777-03 (CDW-S-2(0'-1.5'))
SC50777-04 (CDW-S-2(1.5'-3.5'))
SC50777-05 (CDW-S-3(0'-1.5'))
SC50777-06 (CDW-S-3(1.5'-3.5'))
SC50777-07 (CDW-S-4(3.5'))
SC50777-08 (CDW-S-5(0'-1.5'))
SC50777-09 (CDW-S-5(1.5'-3.5'))
SC50777-10 (CDW-S-6(3.5'))
SC50777-11 (CDW-S-7(0'-1.5'))
SC50777-12 (CDW-S-7(1.5'-3.5'))
SC50777-13 (CDW-S-8(0'-1.5'))
SC50777-14 (CDW-S-8(1.5'-3.5'))
SC50777-15 (CDW-S-9(3.5'))
SC50777-16 (CDW-S-10(0'-1.5'))
SC50777-17 (CDW-S-10(1.5'-3.5'))

1813237

General Chemistry Parameters

1813237-BLK1
1813237-BLK2
1813237-BS1
1813237-BS2
1813237-CCB1
1813237-CCB2
1813237-CCB3
1813237-CCV1
1813237-CCV2
1813237-CCV3
1813237-SRM1
SC50777-01 (CDW-S-1(0'-1.5'))

1813238

Total Metals by EPA 6000/7000 Series Methods

1813238-BLK1
1813238-DUP1
1813238-MS1
1813238-MSD1
1813238-PS1
1813238-SRM1
SC50777-01 (CDW-S-1(0'-1.5'))
SC50777-02 (CDW-S-1(1.5'-3.5'))
SC50777-03 (CDW-S-2(0'-1.5'))
SC50777-04 (CDW-S-2(1.5'-3.5'))
SC50777-05 (CDW-S-3(0'-1.5'))
SC50777-06 (CDW-S-3(1.5'-3.5'))
SC50777-07 (CDW-S-4(3.5'))
SC50777-08 (CDW-S-5(0'-1.5'))
SC50777-09 (CDW-S-5(1.5'-3.5'))
SC50777-10 (CDW-S-6(3.5'))
SC50777-11 (CDW-S-7(0'-1.5'))
SC50777-12 (CDW-S-7(1.5'-3.5'))
SC50777-13 (CDW-S-8(0'-1.5'))
SC50777-14 (CDW-S-8(1.5'-3.5'))
SC50777-15 (CDW-S-9(3.5'))
SC50777-16 (CDW-S-10(0'-1.5'))
SC50777-17 (CDW-S-10(1.5'-3.5'))

1813242**General Chemistry Parameters**

1813242-BLK1
1813242-BLK2
1813242-BS1
1813242-BS2
1813242-CCB1
1813242-CCB2
1813242-CCB3
1813242-CCV1
1813242-CCV2
1813242-CCV3
1813242-DUP1
1813242-MS1
1813242-MSD1
1813242-SRM1
SC50777-02 (CDW-S-1(1.5'-3.5'))
SC50777-03 (CDW-S-2(0'-1.5'))
SC50777-04 (CDW-S-2(1.5'-3.5'))
SC50777-05 (CDW-S-3(0'-1.5'))
SC50777-06 (CDW-S-3(1.5'-3.5'))
SC50777-07 (CDW-S-4(3.5'))
SC50777-08 (CDW-S-5(0'-1.5'))
SC50777-09 (CDW-S-5(1.5'-3.5'))
SC50777-10 (CDW-S-6(3.5'))
SC50777-11 (CDW-S-7(0'-1.5'))
SC50777-12 (CDW-S-7(1.5'-3.5'))
SC50777-13 (CDW-S-8(0'-1.5'))

1813281**General Chemistry Parameters**

1813281-BLK1
1813281-BS1
1813281-CCB1
1813281-CCB2
1813281-CCV1
1813281-CCV2
1813281-DUP1
1813281-MS1
1813281-MSD1
1813281-SRM1
SC50777-14 (CDW-S-8(1.5'-3.5'))
SC50777-15 (CDW-S-9(3.5'))
SC50777-16 (CDW-S-10(0'-1.5'))
SC50777-17 (CDW-S-10(1.5'-3.5'))

Report Date:
11-Oct-18 17:17

Laboratory Report SC50884

CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760
Attn: Susan Cahalan-Roach


Project: BTAT LLC Superfund Site - Franklin, MA
Project #: 1515.20

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393



Authorized by:
Rebecca Merz
Quality Services Manager



Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.

Please note that this report contains 35 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our Quality web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

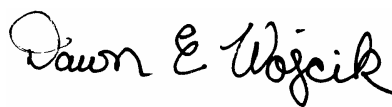
Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC50884
Project: BTAT LLC Superfund Site - Franklin, MA
Project Number: 1515.20

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SC50884-01	CDWS-6A	Soil	03-Oct-18 08:00	05-Oct-18 19:55
SC50884-02	CDWS-6B	Soil	03-Oct-18 08:05	05-Oct-18 19:55
SC50884-03	CDWS-7A	Soil	03-Oct-18 08:15	05-Oct-18 19:55
SC50884-04	CDWS-7B	Soil	03-Oct-18 08:20	05-Oct-18 19:55
SC50884-05	CDWS-8A	Soil	03-Oct-18 08:30	05-Oct-18 19:55
SC50884-06	CDWS-8AD	Soil	03-Oct-18 08:35	05-Oct-18 19:55
SC50884-07	CDWS-8B	Soil	03-Oct-18 08:45	05-Oct-18 19:55
SC50884-08	CDWS-9	Soil	04-Oct-18 09:15	05-Oct-18 19:55
SC50884-09	CDWS-10	Soil	04-Oct-18 09:25	05-Oct-18 19:55
SC50884-10	CDWS-11	Soil	04-Oct-18 09:35	05-Oct-18 19:55
SC50884-11	CDWS-13A	Soil	04-Oct-18 10:00	05-Oct-18 19:55
SC50884-12	CDWS-13B	Soil	04-Oct-18 10:05	05-Oct-18 19:55
SC50884-13	CDWS-14A	Soil	04-Oct-18 10:15	05-Oct-18 19:55
SC50884-14	CDWS-14B	Soil	04-Oct-18 10:20	05-Oct-18 19:55
SC50884-15	CDWS-15A	Soil	04-Oct-18 10:30	05-Oct-18 19:55
SC50884-16	CDWS-15B	Soil	04-Oct-18 10:35	05-Oct-18 19:55
SC50884-17	CDW-DA-6	Soil	04-Oct-18 11:00	05-Oct-18 19:55
SC50884-18	CDW-DA-6 DUP	Soil	04-Oct-18 11:05	05-Oct-18 19:55

MassDEP Analytical Protocol Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.			Project #: 1515.20		
Project Location: BTAT LLC Superfund Site - Franklin, MA			RTN:		
This form provides certifications for the following data set:			SC50884-01 through SC50884-18		
Matrices: Soil					
CAM Protocol					
8260 VOC CAM II A	✓ 7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
✓ 6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	✓ 9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B
<i>Affirmative responses to questions A through F are required for Presumptive Certainty's status</i>					
A	Were all samples received in a condition consistent with those described on the Chain of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?				✓ Yes No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?				✓ Yes No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?				✓ Yes No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?				✓ Yes No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?				Yes No Yes No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to questions A through E)?				✓ Yes No
<i>Responses to questions G, H and I below are required for Presumptive Certainty's status</i>					
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?				Yes ✓ No
Data User Note: Data that achieve <i>Presumptive Certainty's status</i> may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.					
H	Were all QC performance standards specified in the CAM protocol(s) achieved?				Yes ✓ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?				Yes ✓ No
<i>All negative responses are addressed in a case narrative on the cover page of this report.</i>					
<p><i>I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.</i></p> <div style="text-align: right; margin-top: 20px;">  Dawn E. Wojcik Laboratory Director Date: 10/11/2018 </div>					

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 2.2 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 6010C

Spikes:

1813451-MS1 *Source: SC50884-05*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Barium

1813451-MSD1 *Source: SC50884-05*

RPD out of acceptance range. The batch is accepted based upon LCS and/or LCSD recovery.

Lead

The spike recovery exceeded the QC control limits for the MS and/or MSD. The batch was accepted based upon acceptable PS and /or LCS recovery.

Lead

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Barium

Duplicates:

1813451-DUP1 *Source: SC50884-05*

Analyses are not controlled on RPD values from sample concentrations that are less than 5 times the reporting level. The batch is accepted based upon the difference between the sample and duplicate is less than or equal to the reporting limit.

Cadmium

SW846 6010C

Duplicates:

1813451-DUP1 *Source: SC50884-05*

RPD out of acceptance range. The batch is accepted based upon LCS and/or LCSD recovery.

Barium
Lead

S822593-SRD1 *Source: CDWS-8A*

The dilution analysis is not within a control limit of 10%, therefore a chemical or physical interference effect must be suspected.

Barium (129%)
Lead (127%)

Samples:

SC50884-01 *CDWS-6A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Barium

SC50884-02 *CDWS-6B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Barium

SC50884-04 *CDWS-7B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Barium

SC50884-07 *CDWS-8B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Barium

SC50884-08 *CDWS-9*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Barium

SC50884-09 *CDWS-10*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Barium

SC50884-13 *CDWS-14A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Barium
Lead

SC50884-14 *CDWS-14B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Lead

SC50884-15 *CDWS-15A*

SW846 6010C

Samples:

SC50884-15 *CDWS-15A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Barium
Lead

SC50884-17 *CDW-DA-6*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Lead

SW846 7471B

Spikes:

1813454-MS1 *Source: SC50884-05*

Due to noted non-homogeneity of the QC sample matrix, the MS/MSD and/or PS did not provide reliable results for accuracy and precision. Sample results for the QC batch were accepted based on LCS/LCSD percent recoveries and RPD values.

Mercury

1813454-MSD1 *Source: SC50884-05*

Due to noted non-homogeneity of the QC sample matrix, the MS/MSD and/or PS did not provide reliable results for accuracy and precision. Sample results for the QC batch were accepted based on LCS/LCSD percent recoveries and RPD values.

Mercury

1813454-PS1 *Source: SC50884-05*

Due to noted non-homogeneity of the QC sample matrix, the MS/MSD and/or PS did not provide reliable results for accuracy and precision. Sample results for the QC batch were accepted based on LCS/LCSD percent recoveries and RPD values.

Mercury

Duplicates:

1813454-DUP1 *Source: SC50884-05*

Visual evaluation of the sample indicates the RPD is above the control limit due to a non-homogeneous sample matrix.

Mercury

Samples:

SC50884-01 *CDWS-6A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50884-02 *CDWS-6B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50884-04 *CDWS-7B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50884-06 *CDWS-8AD*

SW846 7471B

Samples:

SC50884-06 *CDWS-8AD*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50884-07 *CDWS-8B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50884-08 *CDWS-9*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50884-09 *CDWS-10*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50884-11 *CDWS-13A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50884-12 *CDWS-13B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50884-13 *CDWS-14A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50884-15 *CDWS-15A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50884-17 *CDW-DA-6*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50884-18 *CDW-DA-6 DUP*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SW846 9012B

Spikes:

1813490-MSD1 *Source: SC50884-18*

The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.

Cyanide (total)

Sample Acceptance Check Form

Client: CDW Consultants, Inc.
Project: BTAT LLC Superfund Site - Franklin, MA / 1515.20
Work Order: SC50884
Sample(s) received on: 10/5/2018

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Were custody seals present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were custody seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Were samples received at a temperature of $\leq 6^{\circ}\text{C}$?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples refrigerated upon transfer to laboratory representative?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were sample containers received intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples accompanied by a Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did sample container labels agree with Chain of Custody document?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were samples received within method-specific holding times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Summary of Hits

Lab ID: SC50884-01

Client ID: CDWS-6A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	18.9		6.72	mg/kg	SW846 6010C
Arsenic	6.24		2.02	mg/kg	SW846 6010C
Barium	11000	D, GS	126.9	mg/kg	SW846 6010C
Cadmium	9.95		0.672	mg/kg	SW846 6010C
Chromium	14.4		1.34	mg/kg	SW846 6010C
Lead	1540		2.02	mg/kg	SW846 6010C
Silver	8.09		2.02	mg/kg	SW846 6010C
Mercury	3.41	GS1, D	0.377	mg/kg	SW846 7471B
Cyanide (total)	0.728		0.455	mg/kg	SW846 9012B

Lab ID: SC50884-02

Client ID: CDWS-6B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	12.8		6.44	mg/kg	SW846 6010C
Arsenic	13.3		1.93	mg/kg	SW846 6010C
Barium	8290	GS1, D	25.7	mg/kg	SW846 6010C
Cadmium	12.8		0.644	mg/kg	SW846 6010C
Chromium	20.0		1.29	mg/kg	SW846 6010C
Lead	602		1.93	mg/kg	SW846 6010C
Mercury	7.34	GS1, D	1.57	mg/kg	SW846 7471B

Lab ID: SC50884-03

Client ID: CDWS-7A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Barium	1600		1.46	mg/kg	SW846 6010C
Chromium	7.27		1.46	mg/kg	SW846 6010C
Lead	120		2.18	mg/kg	SW846 6010C
Mercury	0.277		0.0432	mg/kg	SW846 7471B

Lab ID: SC50884-04

Client ID: CDWS-7B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	228		7.33	mg/kg	SW846 6010C
Arsenic	24.6		2.20	mg/kg	SW846 6010C
Barium	13600	GS1, D	29.3	mg/kg	SW846 6010C
Cadmium	33.8		0.733	mg/kg	SW846 6010C
Chromium	37.6		1.47	mg/kg	SW846 6010C
Lead	2860		2.20	mg/kg	SW846 6010C
Silver	19.9		2.20	mg/kg	SW846 6010C
Mercury	5.40	GS1, D	0.415	mg/kg	SW846 7471B
Cyanide (total)	0.842		0.427	mg/kg	SW846 9012B

Lab ID: SC50884-05**Client ID:** CDWS-8A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Barium	519		1.26	mg/kg	SW846 6010C
Chromium	5.26		1.26	mg/kg	SW846 6010C
Lead	142		1.89	mg/kg	SW846 6010C
Mercury	0.167		0.0358	mg/kg	SW846 7471B

Lab ID: SC50884-06**Client ID:** CDWS-8AD

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Barium	172		1.21	mg/kg	SW846 6010C
Chromium	6.15		1.21	mg/kg	SW846 6010C
Lead	70.1		1.81	mg/kg	SW846 6010C
Mercury	3.88	GS1, D1.39		mg/kg	SW846 7471B

Lab ID: SC50884-07**Client ID:** CDWS-8B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	21.3		5.72	mg/kg	SW846 6010C
Arsenic	3.92		1.72	mg/kg	SW846 6010C
Barium	3690	GS1, D5.72		mg/kg	SW846 6010C
Cadmium	2.30		0.572	mg/kg	SW846 6010C
Chromium	9.20		1.14	mg/kg	SW846 6010C
Lead	1400		1.72	mg/kg	SW846 6010C
Mercury	2.01	GS1, D0.182		mg/kg	SW846 7471B
Cyanide (total)	0.327		0.307	mg/kg	SW846 9012B

Lab ID: SC50884-08**Client ID:** CDWS-9

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	28.2		7.71	mg/kg	SW846 6010C
Arsenic	5.05		2.31	mg/kg	SW846 6010C
Barium	5550	GS1, D7.71		mg/kg	SW846 6010C
Cadmium	3.38		0.771	mg/kg	SW846 6010C
Chromium	14.4		1.54	mg/kg	SW846 6010C
Lead	1950		2.31	mg/kg	SW846 6010C
Mercury	2.14	GS1, D0.219		mg/kg	SW846 7471B
Cyanide (total)	1.84		0.375	mg/kg	SW846 9012B

Lab ID: SC50884-09**Client ID:** CDWS-10

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	7.63		7.04	mg/kg	SW846 6010C
Arsenic	9.05		2.11	mg/kg	SW846 6010C
Barium	9160	GS1, D28.2		mg/kg	SW846 6010C
Cadmium	10.9		0.704	mg/kg	SW846 6010C
Chromium	16.5		1.41	mg/kg	SW846 6010C
Lead	585		2.11	mg/kg	SW846 6010C
Silver	4.99		2.11	mg/kg	SW846 6010C
Mercury	8.97	GS1, D1.66		mg/kg	SW846 7471B
Cyanide (total)	0.432		0.414	mg/kg	SW846 9012B

Lab ID: SC50884-10**Client ID:** CDWS-11

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	2.07		1.88	mg/kg	SW846 6010C
Barium	144		1.26	mg/kg	SW846 6010C
Cadmium	2.37		0.628	mg/kg	SW846 6010C
Chromium	7.55		1.26	mg/kg	SW846 6010C
Lead	663		1.88	mg/kg	SW846 6010C
Mercury	0.359		0.0375	mg/kg	SW846 7471B

Lab ID: SC50884-11**Client ID:** CDWS-13A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	10.7		6.59	mg/kg	SW846 6010C
Arsenic	19.8		1.98	mg/kg	SW846 6010C
Barium	2260		1.32	mg/kg	SW846 6010C
Cadmium	3.94		0.659	mg/kg	SW846 6010C
Chromium	10.3		1.32	mg/kg	SW846 6010C
Lead	4630		1.98	mg/kg	SW846 6010C
Mercury	7.17	GS1, D1.55		mg/kg	SW846 7471B

Lab ID: SC50884-12**Client ID:** CDWS-13B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	27.5		6.52	mg/kg	SW846 6010C
Arsenic	24.2		1.96	mg/kg	SW846 6010C
Barium	2830		1.30	mg/kg	SW846 6010C
Cadmium	22.5		0.652	mg/kg	SW846 6010C
Chromium	7.58		1.30	mg/kg	SW846 6010C
Lead	4270		1.96	mg/kg	SW846 6010C
Mercury	11.6	GS1, D1.57		mg/kg	SW846 7471B

Lab ID: SC50884-13**Client ID:** CDWS-14A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	147		10.1	mg/kg	SW846 6010C
Arsenic	104		3.04	mg/kg	SW846 6010C
Barium	9450	GS1, D40.5		mg/kg	SW846 6010C
Cadmium	18.3		1.01	mg/kg	SW846 6010C
Chromium	23.0		2.03	mg/kg	SW846 6010C
Lead	40100	GS1, D60.8		mg/kg	SW846 6010C
Mercury	23.7	GS1, D2.33		mg/kg	SW846 7471B
Cyanide (total)	1.32		0.547	mg/kg	SW846 9012B

Lab ID: SC50884-14**Client ID:** CDWS-14B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	21.7		7.21	mg/kg	SW846 6010C
Arsenic	26.7		2.16	mg/kg	SW846 6010C
Barium	3260		1.44	mg/kg	SW846 6010C
Cadmium	5.01		0.721	mg/kg	SW846 6010C
Chromium	11.6		1.44	mg/kg	SW846 6010C
Lead	12800	GS1, D10.8		mg/kg	SW846 6010C
Mercury	0.289		0.0409	mg/kg	SW846 7471B

Lab ID: SC50884-15**Client ID:** CDWS-15A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	213		11.3	mg/kg	SW846 6010C
Arsenic	87.0		3.40	mg/kg	SW846 6010C
Barium	7330	GS1, D11.3		mg/kg	SW846 6010C
Cadmium	58.8		1.13	mg/kg	SW846 6010C
Chromium	46.3		2.26	mg/kg	SW846 6010C
Lead	153000	GS1, D170		mg/kg	SW846 6010C
Selenium	3.41		3.40	mg/kg	SW846 6010C
Mercury	184	GS1, D26.6		mg/kg	SW846 7471B

Lab ID: SC50884-16**Client ID:** CDWS-15B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	7.03		2.97	mg/kg	SW846 6010C
Barium	137		1.98	mg/kg	SW846 6010C
Chromium	12.6		1.98	mg/kg	SW846 6010C
Lead	157		2.97	mg/kg	SW846 6010C
Mercury	0.266		0.0564	mg/kg	SW846 7471B

Lab ID: SC50884-17**Client ID:** CDW-DA-6

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	56.6		7.56	mg/kg	SW846 6010C
Arsenic	44.6		2.27	mg/kg	SW846 6010C
Barium	2090		1.51	mg/kg	SW846 6010C
Cadmium	13.2		0.756	mg/kg	SW846 6010C
Chromium	18.0		1.51	mg/kg	SW846 6010C
Lead	10200	GS1, D11.3		mg/kg	SW846 6010C
Mercury	2.49	GS1, D0.227		mg/kg	SW846 7471B
Cyanide (total)	1.88		0.519	mg/kg	SW846 9012B

Lab ID: SC50884-18**Client ID:** CDW-DA-6 DUP

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	15.4		6.88	mg/kg	SW846 6010C
Arsenic	47.0		2.06	mg/kg	SW846 6010C
Barium	1540		1.38	mg/kg	SW846 6010C
Cadmium	8.21		0.688	mg/kg	SW846 6010C
Chromium	13.5		1.38	mg/kg	SW846 6010C
Lead	5180		2.06	mg/kg	SW846 6010C
Selenium	2.61		2.06	mg/kg	SW846 6010C
Mercury	2.27	GS1, D0.224		mg/kg	SW846 7471B
Cyanide (total)	5.46		0.515	mg/kg	SW846 9012B

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification

CDWS-6A

SC50884-01

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

03-Oct-18 08:00

Received

05-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	8.09		mg/kg dry	2.02	0.218	1	SW846 6010C	09-Oct-18	10-Oct-18	EDT	1813451	
7440-38-2	Arsenic	6.24		mg/kg dry	2.02	0.255	1	"	"	"	"	"	
7440-39-3	Barium	11,000	D, GS1	mg/kg dry	26.9	3.17	20	"	"	11-Oct-18	"	"	
7440-43-9	Cadmium	9.95		mg/kg dry	0.672	0.0348	1	"	"	10-Oct-18	"	"	
7440-47-3	Chromium	14.4		mg/kg dry	1.34	0.179	1	"	"	"	"	"	
7439-97-6	Mercury	3.41	GS1, D	mg/kg dry	0.377	0.105	10	SW846 7471B	"	10-Oct-18	ABW	1813454	

Prepared by method SW846 3050B

7439-92-1	Lead	1,540		mg/kg dry	2.02	0.285	1	SW846 6010C	"	10-Oct-18	EDT	1813451	
7440-36-0	Antimony	18.9		mg/kg dry	6.72	0.505	1	"	"	"	"	"	
7782-49-2	Selenium	< 2.02		mg/kg dry	2.02	0.384	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	72.2		%			1	SM2540 G (11) Mod.	08-Oct-18	08-Oct-18	BD	1813422	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	0.728		mg/kg dry	0.455	0.359	1	SW846 9012B	09-Oct-18	10-Oct-18	RLT	1813484	
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Sample Identification

CDWS-6B

SC50884-02

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

03-Oct-18 08:05

Received

05-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 1.93		mg/kg dry	1.93	0.209	1	SW846 6010C	09-Oct-18	10-Oct-18	EDT	1813451	
7440-38-2	Arsenic	13.3		mg/kg dry	1.93	0.245	1	"	"	"	"	"	
7440-39-3	Barium	8,290	GS1, D	mg/kg dry	25.7	3.04	20	"	"	11-Oct-18	"	"	
7440-43-9	Cadmium	12.8		mg/kg dry	0.644	0.0333	1	"	"	10-Oct-18	"	"	
7440-47-3	Chromium	20.0		mg/kg dry	1.29	0.171	1	"	"	"	"	"	
7439-97-6	Mercury	7.34	GS1, D	mg/kg dry	1.57	0.437	40	SW846 7471B	"	10-Oct-18	ABW	1813454	

Prepared by method SW846 3050B

7439-92-1	Lead	602		mg/kg dry	1.93	0.273	1	SW846 6010C	"	10-Oct-18	EDT	1813451	
7440-36-0	Antimony	12.8		mg/kg dry	6.44	0.484	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.93		mg/kg dry	1.93	0.368	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	72.1		%			1	SM2540 G (11) Mod.	08-Oct-18	08-Oct-18	BD	1813422	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.510		mg/kg dry	0.510	0.403	1	SW846 9012B	09-Oct-18	10-Oct-18	RLT	1813484	
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Sample Identification

CDWS-7A

SC50884-03

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

03-Oct-18 08:15

Received

05-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 2.18		mg/kg dry	2.18	0.236	1	SW846 6010C	09-Oct-18	10-Oct-18	EDT	1813451	
7440-38-2	Arsenic	< 2.18		mg/kg dry	2.18	0.277	1	"	"	"	"	"	
7440-39-3	Barium	1,600		mg/kg dry	1.46	0.172	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.728		mg/kg dry	0.728	0.0377	1	"	"	"	"	"	
7440-47-3	Chromium	7.27		mg/kg dry	1.46	0.194	1	"	"	"	"	"	
7439-97-6	Mercury	0.277		mg/kg dry	0.0432	0.0120	1	SW846 7471B	"	10-Oct-18	ABW	1813454	

Prepared by method SW846 3050B

7439-92-1	Lead	120		mg/kg dry	2.18	0.309	1	SW846 6010C	"	10-Oct-18	EDT	1813451	
7440-36-0	Antimony	< 7.28		mg/kg dry	7.28	0.547	1	"	"	"	"	"	
7782-49-2	Selenium	< 2.18		mg/kg dry	2.18	0.416	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	65.3		%				1	SM2540 G (11) Mod.	08-Oct-18	08-Oct-18	BD	1813422	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.352		mg/kg dry	0.352	0.278	1	SW846 9012B	09-Oct-18	10-Oct-18	RLT	1813484	
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Sample Identification

CDWS-7B

SC50884-04

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

03-Oct-18 08:20

Received

05-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	19.9		mg/kg dry	2.20	0.237	1	SW846 6010C	09-Oct-18	10-Oct-18	EDT	1813451	
7440-38-2	Arsenic	24.6		mg/kg dry	2.20	0.278	1	"	"	"	"	"	
7440-39-3	Barium	13,600	GS1, D	mg/kg dry	29.3	3.46	20	"	"	11-Oct-18	"	"	
7440-43-9	Cadmium	33.8		mg/kg dry	0.733	0.0379	1	"	"	10-Oct-18	"	"	
7440-47-3	Chromium	37.6		mg/kg dry	1.47	0.195	1	"	"	"	"	"	
7439-97-6	Mercury	5.40	GS1, D	mg/kg dry	0.415	0.115	10	SW846 7471B	"	10-Oct-18	ABW	1813454	

Prepared by method SW846 3050B

7439-92-1	Lead	2,860		mg/kg dry	2.20	0.311	1	SW846 6010C	"	10-Oct-18	EDT	1813451	
7440-36-0	Antimony	228		mg/kg dry	7.33	0.551	1	"	"	"	"	"	
7782-49-2	Selenium	< 2.20		mg/kg dry	2.20	0.419	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	62.5		%			1	SM2540 G (11) Mod.	08-Oct-18	08-Oct-18	BD	1813422	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	0.842		mg/kg dry	0.427	0.337	1	SW846 9012B	09-Oct-18	10-Oct-18	RLT	1813484	
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Sample Identification

CDWS-8A

SC50884-05

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

03-Oct-18 08:30

Received

05-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 1.89		mg/kg dry	1.89	0.204	1	SW846 6010C	09-Oct-18	10-Oct-18	EDT	1813451	
7440-38-2	Arsenic	< 1.89		mg/kg dry	1.89	0.239	1	"	"	"	"	"	
7440-39-3	Barium	519		mg/kg dry	1.26	0.149	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.630		mg/kg dry	0.630	0.0326	1	"	"	"	"	"	
7440-47-3	Chromium	5.26		mg/kg dry	1.26	0.167	1	"	"	"	"	"	
7439-97-6	Mercury	0.167		mg/kg dry	0.0358	0.0099	1	SW846 7471B	"	10-Oct-18	ABW	1813454	

Prepared by method SW846 3050B

7439-92-1	Lead	142		mg/kg dry	1.89	0.267	1	SW846 6010C	"	10-Oct-18	EDT	1813451	
7440-36-0	Antimony	< 6.30		mg/kg dry	6.30	0.473	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.89		mg/kg dry	1.89	0.360	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	77.9		%				1	SM2540 G (11) Mod.	08-Oct-18	08-Oct-18	BD	1813422	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.414		mg/kg dry	0.414	0.327	1	SW846 9012B	09-Oct-18	10-Oct-18	RLT	1813484	
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Sample Identification

CDWS-8AD

SC50884-06

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

03-Oct-18 08:35

Received

05-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 1.81		mg/kg dry	1.81	0.195	1	SW846 6010C	09-Oct-18	10-Oct-18	EDT	1813451	
7440-38-2	Arsenic	< 1.81		mg/kg dry	1.81	0.229	1	"	"	"	"	"	
7440-39-3	Barium	172		mg/kg dry	1.21	0.142	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.603		mg/kg dry	0.603	0.0312	1	"	"	"	"	"	
7440-47-3	Chromium	6.15		mg/kg dry	1.21	0.160	1	"	"	"	"	"	
7439-97-6	Mercury	3.88	GS1, D	mg/kg dry	1.39	0.387	40	SW846 7471B	"	10-Oct-18	ABW	1813454	

Prepared by method SW846 3050B

7439-92-1	Lead	70.1		mg/kg dry	1.81	0.256	1	SW846 6010C	"	10-Oct-18	EDT	1813451	
7440-36-0	Antimony	< 6.03		mg/kg dry	6.03	0.454	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.81		mg/kg dry	1.81	0.345	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	77.3			%			1	SM2540 G (11) Mod.	08-Oct-18	08-Oct-18	BD	1813422	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.333		mg/kg dry	0.333	0.263	1	SW846 9012B	09-Oct-18	10-Oct-18	RLT	1813484	
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Sample Identification**CDWS-8B**

SC50884-07

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

03-Oct-18 08:45

Received

05-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 1.72		mg/kg dry	1.72	0.185	1	SW846 6010C	09-Oct-18	10-Oct-18	EDT	1813451	
7440-38-2	Arsenic	3.92		mg/kg dry	1.72	0.217	1	"	"	"	"	"	
7440-39-3	Barium	3,690	GS1, D	mg/kg dry	5.72	0.675	5	"	"	11-Oct-18	"	"	
7440-43-9	Cadmium	2.30		mg/kg dry	0.572	0.0296	1	"	"	10-Oct-18	"	"	
7440-47-3	Chromium	9.20		mg/kg dry	1.14	0.152	1	"	"	"	"	"	
7439-97-6	Mercury	2.01	GS1, D	mg/kg dry	0.182	0.0506	5	SW846 7471B	"	10-Oct-18	ABW	1813454	

Prepared by method SW846 3050B

7439-92-1	Lead	1,400		mg/kg dry	1.72	0.242	1	SW846 6010C	"	10-Oct-18	EDT	1813451	
7440-36-0	Antimony	21.3		mg/kg dry	5.72	0.430	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.72		mg/kg dry	1.72	0.327	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	82.0		%			1	SM2540 G (11) Mod.	08-Oct-18	08-Oct-18	BD	1813422	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	0.327		mg/kg dry	0.307	0.243	1	SW846 9012B	09-Oct-18	10-Oct-18	RLT	1813484	
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Sample Identification

CDWS-9

SC50884-08

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

04-Oct-18 09:15

Received

05-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 2.31		mg/kg dry	2.31	0.250	1	SW846 6010C	09-Oct-18	10-Oct-18	EDT	1813451	
7440-38-2	Arsenic	5.05		mg/kg dry	2.31	0.293	1	"	"	"	"	"	
7440-39-3	Barium	5,550	GS1, D	mg/kg dry	7.71	0.910	5	"	"	11-Oct-18	"	"	
7440-43-9	Cadmium	3.38		mg/kg dry	0.771	0.0400	1	"	"	10-Oct-18	"	"	
7440-47-3	Chromium	14.4		mg/kg dry	1.54	0.205	1	"	"	"	"	"	
7439-97-6	Mercury	2.14	GS1, D	mg/kg dry	0.219	0.0608	5	SW846 7471B	"	10-Oct-18	ABW	1813454	

Prepared by method SW846 3050B

7439-92-1	Lead	1,950		mg/kg dry	2.31	0.327	1	SW846 6010C	"	10-Oct-18	EDT	1813451	
7440-36-0	Antimony	28.2		mg/kg dry	7.71	0.580	1	"	"	"	"	"	
7782-49-2	Selenium	< 2.31		mg/kg dry	2.31	0.441	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	63.7		%			1	SM2540 G (11) Mod.	08-Oct-18	08-Oct-18	BD	1813422	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	1.84		mg/kg dry	0.375	0.296	1	SW846 9012B	09-Oct-18	10-Oct-18	RLT	1813484	
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Sample Identification

CDWS-10	<u>Client Project #</u>	<u>Matrix</u>	<u>Collection Date/Time</u>	<u>Received</u>
SC50884-09	1515.20	Soil	04-Oct-18 09:25	05-Oct-18

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	4.99		mg/kg dry	2.11	0.228	1	SW846 6010C	09-Oct-18	10-Oct-18	EDT	1813451
7440-38-2	Arsenic	9.05		mg/kg dry	2.11	0.268	1	"	"	"	"	"
7440-39-3	Barium	9,160	GS1, D	mg/kg dry	28.2	3.32	20	"	"	11-Oct-18	"	"
7440-43-9	Cadmium	10.9		mg/kg dry	0.704	0.0365	1	"	"	10-Oct-18	"	"
7440-47-3	Chromium	16.5		mg/kg dry	1.41	0.187	1	"	"	"	"	"
7439-97-6	Mercury	8.97	GS1, D	mg/kg dry	1.66	0.461	40	SW846 7471B	"	10-Oct-18	ABW	1813454

Prepared by method SW846 3050B

7439-92-1	Lead	585		mg/kg dry	2.11	0.298	1	SW846 6010C	"	10-Oct-18	EDT	1813451
7440-36-0	Antimony	7.63		mg/kg dry	7.04	0.529	1	"	"	"	"	"
7782-49-2	Selenium	< 2.11		mg/kg dry	2.11	0.403	1	"	"	"	"	"

General Chemistry Parameters

% Solids	66.1		%				1	SM2540 G (11) Mod.	08-Oct-18	08-Oct-18	BD	1813422
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	0.432		mg/kg dry	0.414	0.327	1	SW846 9012B	09-Oct-18	10-Oct-18	RLT	1813484
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Sample Identification

CDWS-11	<u>Client Project #</u>	<u>Matrix</u>	<u>Collection Date/Time</u>	<u>Received</u>
SC50884-10	1515.20	Soil	04-Oct-18 09:35	05-Oct-18

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 1.88		mg/kg dry	1.88	0.204	1	SW846 6010C	09-Oct-18	10-Oct-18	EDT	1813451	
7440-38-2	Arsenic	2.07		mg/kg dry	1.88	0.239	1	"	"	"	"	"	
7440-39-3	Barium	144		mg/kg dry	1.26	0.148	1	"	"	"	"	"	
7440-43-9	Cadmium	2.37		mg/kg dry	0.628	0.0325	1	"	"	"	"	"	
7440-47-3	Chromium	7.55		mg/kg dry	1.26	0.167	1	"	"	"	"	"	
7439-97-6	Mercury	0.359		mg/kg dry	0.0375	0.0104	1	SW846 7471B	"	10-Oct-18	ABW	1813454	

Prepared by method SW846 3050B

7439-92-1	Lead	663		mg/kg dry	1.88	0.266	1	SW846 6010C	"	10-Oct-18	EDT	1813451	
7440-36-0	Antimony	< 6.28		mg/kg dry	6.28	0.472	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.88		mg/kg dry	1.88	0.359	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	74.2		%				1	SM2540 G (11) Mod.	08-Oct-18	08-Oct-18	BD	1813422	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.474		mg/kg dry	0.474	0.374	1	SW846 9012B	09-Oct-18	10-Oct-18	RLT	1813484	
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Sample Identification

CDWS-13A

SC50884-11

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

04-Oct-18 10:00

Received

05-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 1.98		mg/kg dry	1.98	0.213	1	SW846 6010C	09-Oct-18	10-Oct-18	EDT	1813451	
7440-38-2	Arsenic	19.8		mg/kg dry	1.98	0.250	1	"	"	"	"	"	
7440-39-3	Barium	2,260		mg/kg dry	1.32	0.155	1	"	"	"	"	"	
7440-43-9	Cadmium	3.94		mg/kg dry	0.659	0.0341	1	"	"	"	"	"	
7440-47-3	Chromium	10.3		mg/kg dry	1.32	0.175	1	"	"	"	"	"	
7439-97-6	Mercury	7.17	GS1, D	mg/kg dry	1.55	0.431	40	SW846 7471B	"	10-Oct-18	ABW	1813454	

Prepared by method SW846 3050B

7439-92-1	Lead	4,630		mg/kg dry	1.98	0.279	1	SW846 6010C	"	10-Oct-18	EDT	1813451	
7440-36-0	Antimony	10.7		mg/kg dry	6.59	0.495	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.98		mg/kg dry	1.98	0.377	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	71.1		%			1	SM2540 G (11) Mod.	08-Oct-18	08-Oct-18	BD	1813422	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.383		mg/kg dry	0.383	0.302	1	SW846 9012B	09-Oct-18	10-Oct-18	RLT	1813484	
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Sample Identification

CDWS-13B

SC50884-12

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

04-Oct-18 10:05

Received

05-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 1.96		mg/kg dry	1.96	0.211	1	SW846 6010C	09-Oct-18	10-Oct-18	EDT	1813451	
7440-38-2	Arsenic	24.2		mg/kg dry	1.96	0.248	1	"	"	"	"	"	
7440-39-3	Barium	2,830		mg/kg dry	1.30	0.154	1	"	"	"	"	"	
7440-43-9	Cadmium	22.5		mg/kg dry	0.652	0.0338	1	"	"	"	"	"	
7440-47-3	Chromium	7.58		mg/kg dry	1.30	0.173	1	"	"	"	"	"	
7439-97-6	Mercury	11.6	GS1, D	mg/kg dry	1.57	0.436	40	SW846 7471B	"	10-Oct-18	ABW	1813454	

Prepared by method SW846 3050B

7439-92-1	Lead	4,270		mg/kg dry	1.96	0.276	1	SW846 6010C	"	10-Oct-18	EDT	1813451	
7440-36-0	Antimony	27.5		mg/kg dry	6.52	0.490	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.96		mg/kg dry	1.96	0.373	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	75.1		%				1	SM2540 G (11) Mod.	08-Oct-18	08-Oct-18	BD	1813422	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.402		mg/kg dry	0.402	0.317	1	SW846 9012B	09-Oct-18	10-Oct-18	RLT	1813484	
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Sample Identification

CDWS-14A

SC50884-13

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

04-Oct-18 10:15

Received

05-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 3.04		mg/kg dry	3.04	0.328	1	SW846 6010C	09-Oct-18	10-Oct-18	EDT	1813451	
7440-38-2	Arsenic	104		mg/kg dry	3.04	0.385	1	"	"	"	"	"	
7440-39-3	Barium	9,450	GS1, D	mg/kg dry	40.5	4.78	20	"	"	11-Oct-18	"	"	
7440-43-9	Cadmium	18.3		mg/kg dry	1.01	0.0525	1	"	"	10-Oct-18	"	"	
7440-47-3	Chromium	23.0		mg/kg dry	2.03	0.270	1	"	"	"	"	"	
7439-97-6	Mercury	23.7	GS1, D	mg/kg dry	2.33	0.648	40	SW846 7471B	"	10-Oct-18	ABW	1813454	

Prepared by method SW846 3050B

7439-92-1	Lead	40,100	GS1, D	mg/kg dry	60.8	8.59	20	SW846 6010C	"	11-Oct-18	SC/TBC	1813451	
7440-36-0	Antimony	147		mg/kg dry	10.1	0.762	1	"	"	10-Oct-18	"	"	
7782-49-2	Selenium	< 3.04		mg/kg dry	3.04	0.580	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	47.4		%			1	SM2540 G (11) Mod.	08-Oct-18	08-Oct-18	BD	1813422	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	1.32		mg/kg dry	0.547	0.432	1	SW846 9012B	09-Oct-18	10-Oct-18	RLT	1813490	
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Sample Identification

CDWS-14B

SC50884-14

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

04-Oct-18 10:20

Received

05-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3050B</u>													
7440-22-4	Silver	< 2.16		mg/kg dry	2.16	0.234	1	SW846 6010C	09-Oct-18	10-Oct-18	EDT	1813451	
7440-38-2	Arsenic	26.7		mg/kg dry	2.16	0.274	1	"	"	"	"	"	
7440-39-3	Barium	3,260		mg/kg dry	1.44	0.170	1	"	"	"	"	"	
7440-43-9	Cadmium	5.01		mg/kg dry	0.721	0.0374	1	"	"	"	"	"	
7440-47-3	Chromium	11.6		mg/kg dry	1.44	0.192	1	"	"	"	"	"	
7439-97-6	Mercury	0.289		mg/kg dry	0.0409	0.0113	1	SW846 7471B	"	10-Oct-18	ABW	1813454	
<u>Prepared by method SW846 3050B</u>													
7439-92-1	Lead	12,800	GS1, D	mg/kg dry	10.8	1.53	5	SW846 6010C	"	11-Oct-18	SC/TBC	1813451	
7440-36-0	Antimony	21.7		mg/kg dry	7.21	0.542	1	"	"	10-Oct-18	"	"	
7782-49-2	Selenium	< 2.16		mg/kg dry	2.16	0.412	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	64.2		%			1	SM2540 G (11) Mod.	08-Oct-18	08-Oct-18	BD	1813422	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.459		mg/kg dry	0.459	0.362	1	SW846 9012B	09-Oct-18	10-Oct-18	RLT	1813490	

Sample Identification

CDWS-15A

SC50884-15

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

04-Oct-18 10:30

Received

05-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 3.40		mg/kg dry	3.40	0.367	1	SW846 6010C	09-Oct-18	10-Oct-18	EDT	1813451	
7440-38-2	Arsenic	87.0		mg/kg dry	3.40	0.430	1	"	"	"	"	"	
7440-39-3	Barium	7,330	GS1, D	mg/kg dry	11.3	1.34	5	"	"	11-Oct-18	"	"	
7440-43-9	Cadmium	58.8		mg/kg dry	1.13	0.0586	1	"	"	10-Oct-18	"	"	
7440-47-3	Chromium	46.3		mg/kg dry	2.26	0.301	1	"	"	"	"	"	
7439-97-6	Mercury	184	GS1, D	mg/kg dry	26.6	7.38	400	SW846 7471B	"	10-Oct-18	ABW	1813454	

Prepared by method SW846 3050B

7439-92-1	Lead	153,000	GS1, D	mg/kg dry	170	24.0	50	SW846 6010C	"	11-Oct-18	SC/TBC	1813451	
7440-36-0	Antimony	213		mg/kg dry	11.3	0.851	1	"	"	10-Oct-18	"	"	
7782-49-2	Selenium	3.41		mg/kg dry	3.40	0.648	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	40.4			%			1	SM2540 G (11) Mod.	08-Oct-18	08-Oct-18	BD	1813422	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.709		mg/kg dry	0.709	0.560	1	SW846 9012B	09-Oct-18	10-Oct-18	RLT	1813490	
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Sample Identification**CDWS-15B**

SC50884-16

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

04-Oct-18 10:35

Received

05-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 2.97		mg/kg dry	2.97	0.321	1	SW846 6010C	09-Oct-18	10-Oct-18	EDT	1813451	
7440-38-2	Arsenic	7.03		mg/kg dry	2.97	0.376	1	"	"	"	"	"	
7440-39-3	Barium	137		mg/kg dry	1.98	0.233	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.989		mg/kg dry	0.989	0.0512	1	"	"	"	"	"	
7440-47-3	Chromium	12.6		mg/kg dry	1.98	0.263	1	"	"	"	"	"	
7439-97-6	Mercury	0.266		mg/kg dry	0.0564	0.0156	1	SW846 7471B	"	10-Oct-18	ABW	1813454	

Prepared by method SW846 3050B

7439-92-1	Lead	157		mg/kg dry	2.97	0.419	1	SW846 6010C	"	10-Oct-18	EDT	1813451	
7440-36-0	Antimony	< 9.89		mg/kg dry	9.89	0.744	1	"	"	"	"	"	
7782-49-2	Selenium	< 2.97		mg/kg dry	2.97	0.566	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	47.2		%			1	SM2540 G (11) Mod.	08-Oct-18	08-Oct-18	BD	1813422	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.702		mg/kg dry	0.702	0.554	1	SW846 9012B	09-Oct-18	10-Oct-18	RLT	1813490	
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Sample Identification

CDW-DA-6

SC50884-17

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

04-Oct-18 11:00

Received

05-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 2.27		mg/kg dry	2.27	0.245	1	SW846 6010C	09-Oct-18	10-Oct-18	EDT	1813451	
7440-38-2	Arsenic	44.6		mg/kg dry	2.27	0.287	1	"	"	"	"	"	
7440-39-3	Barium	2,090		mg/kg dry	1.51	0.178	1	"	"	"	"	"	
7440-43-9	Cadmium	13.2		mg/kg dry	0.756	0.0392	1	"	"	"	"	"	
7440-47-3	Chromium	18.0		mg/kg dry	1.51	0.201	1	"	"	"	"	"	
7439-97-6	Mercury	2.49	GS1, D	mg/kg dry	0.227	0.0630	5	SW846 7471B	"	10-Oct-18	ABW	1813454	

Prepared by method SW846 3050B

7439-92-1	Lead	10,200	GS1, D	mg/kg dry	11.3	1.60	5	SW846 6010C	"	11-Oct-18	SC/TBC	1813451	
7440-36-0	Antimony	56.6		mg/kg dry	7.56	0.569	1	"	"	10-Oct-18	"	"	
7782-49-2	Selenium	< 2.27		mg/kg dry	2.27	0.433	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	63.0			%			1	SM2540 G (11) Mod.	08-Oct-18	08-Oct-18	BD	1813422	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	1.88		mg/kg dry	0.519	0.410	1	SW846 9012B	09-Oct-18	10-Oct-18	RLT	1813490	
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Sample Identification

CDW-DA-6 DUP

SC50884-18

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

04-Oct-18 11:05

Received

05-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3050B</u>													
7440-22-4	Silver	< 2.06		mg/kg dry	2.06	0.223	1	SW846 6010C	09-Oct-18	10-Oct-18	EDT	1813451	
7440-38-2	Arsenic	47.0		mg/kg dry	2.06	0.261	1	"	"	"	"	"	
7440-39-3	Barium	1,540		mg/kg dry	1.38	0.162	1	"	"	"	"	"	
7440-43-9	Cadmium	8.21		mg/kg dry	0.688	0.0356	1	"	"	"	"	"	
7440-47-3	Chromium	13.5		mg/kg dry	1.38	0.183	1	"	"	"	"	"	
7439-97-6	Mercury	2.27	GS1, D	mg/kg dry	0.224	0.0622	5	SW846 7471B	"	10-Oct-18	ABW	1813454	
<u>Prepared by method SW846 3050B</u>													
7439-92-1	Lead	5,180		mg/kg dry	2.06	0.292	1	SW846 6010C	"	10-Oct-18	EDT	1813451	
7440-36-0	Antimony	15.4		mg/kg dry	6.88	0.517	1	"	"	"	"	"	
7782-49-2	Selenium	2.61		mg/kg dry	2.06	0.393	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	66.4		%			1	SM2540 G (11) Mod.	08-Oct-18	08-Oct-18	BD	1813422	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	5.46		mg/kg dry	0.515	0.407	1	SW846 9012B	09-Oct-18	10-Oct-18	RLT	1813490	

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW846 6010C</u>										
Batch 1813451 - SW846 3050B										
<u>Blank (1813451-BLK1)</u>					<u>Prepared: 09-Oct-18 Analyzed: 10-Oct-18</u>					
Silver	< 1.42		mg/kg wet	1.42						
Arsenic	< 1.42		mg/kg wet	1.42						
Cadmium	< 0.473		mg/kg wet	0.473						
Chromium	< 0.946		mg/kg wet	0.946						
Lead	< 1.42		mg/kg wet	1.42						
Antimony	< 4.73		mg/kg wet	4.73						
Selenium	< 1.42		mg/kg wet	1.42						
Barium	< 0.946		mg/kg wet	0.946						
<u>Duplicate (1813451-DUP1)</u>					<u>Source: SC50884-05 Prepared: 09-Oct-18 Analyzed: 10-Oct-18</u>					
Lead	184	QR9	mg/kg dry	1.82		142			26	20
Antimony	0.709	J	mg/kg dry	6.06		0.460				20
Chromium	5.36		mg/kg dry	1.21		5.26			2	20
Cadmium	0.197	J,QR8	mg/kg dry	0.606		0.133			38	20
Arsenic	1.31	J	mg/kg dry	1.82		1.11			16	20
Silver	< 1.82		mg/kg dry	1.82		BRL				20
Selenium	< 1.82		mg/kg dry	1.82		BRL				20
Barium	173	QR9	mg/kg dry	1.21		519			100	20
<u>Matrix Spike (1813451-MS1)</u>					<u>Source: SC50884-05 Prepared: 09-Oct-18 Analyzed: 10-Oct-18</u>					
Cadmium	135		mg/kg dry	0.592	148	0.133	91	75-125		
Selenium	135		mg/kg dry	1.78	148	BRL	91	75-125		
Antimony	116		mg/kg dry	5.92	148	0.460	78	75-125		
Chromium	147		mg/kg dry	1.18	148	5.26	96	75-125		
Arsenic	136		mg/kg dry	1.78	148	1.11	91	75-125		
Silver	131		mg/kg dry	1.78	148	BRL	88	75-125		
Lead	289		mg/kg dry	1.78	148	142	99	75-125		
Barium	269	QM7	mg/kg dry	1.18	148	519	-169	75-125		
<u>Matrix Spike Dup (1813451-MSD1)</u>					<u>Source: SC50884-05 Prepared: 09-Oct-18 Analyzed: 10-Oct-18</u>					
Selenium	135		mg/kg dry	1.81	150	BRL	90	75-125	0.3	20
Arsenic	136		mg/kg dry	1.81	150	1.11	89	75-125	0.2	20
Silver	132		mg/kg dry	1.81	150	BRL	88	75-125	0.8	20
Cadmium	137		mg/kg dry	0.602	150	0.133	91	75-125	2	20
Chromium	149		mg/kg dry	1.20	150	5.26	96	75-125	2	20
Lead	186	QM8, QR9	mg/kg dry	1.81	150	142	29	75-125	43	20
Antimony	119		mg/kg dry	6.02	150	0.460	79	75-125	3	20
Barium	228	QM7	mg/kg dry	1.20	150	519	-193	75-125	16	20
<u>Post Spike (1813451-PS1)</u>					<u>Source: SC50884-05 Prepared: 09-Oct-18 Analyzed: 10-Oct-18</u>					
Lead	274		mg/kg dry	1.89	157	142	84	80-120		
Chromium	161		mg/kg dry	1.26	157	5.26	99	80-120		
Cadmium	154		mg/kg dry	0.630	157	0.133	98	80-120		
Arsenic	153		mg/kg dry	1.89	157	1.11	96	80-120		
Silver	141		mg/kg dry	1.89	157	BRL	90	80-120		
Selenium	153		mg/kg dry	1.89	157	BRL	97	80-120		
Antimony	154		mg/kg dry	6.30	157	BRL	98	80-120		
<u>Reference (1813451-SRM1)</u>					<u>Prepared: 09-Oct-18 Analyzed: 10-Oct-18</u>					
Lead	48.0		mg/kg wet	1.50	56.1		86	83-117.1		
Selenium	85.6		mg/kg wet	1.50	96.5		89	79.6-120.9		
Antimony	22.0		mg/kg wet	5.00	38.1		58	25-196		
Chromium	62.4		mg/kg wet	1.00	68.7		91	82.4-117.6		

This laboratory report is not valid without an authorized signature on the cover page.

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW846 6010C</u>										
Batch 1813451 - SW846 3050B										
<u>Reference (1813451-SRM1)</u>					<u>Prepared: 09-Oct-18 Analyzed: 10-Oct-18</u>					
Silver	18.8		mg/kg wet	1.50	21.9		86	79.9-119.9		
Cadmium	95.7		mg/kg wet	0.500	107		90	83.4-116.6		
Arsenic	72.5		mg/kg wet	1.50	81.3		89	83.2-116.8		
Barium	126		mg/kg wet	1.00	131		96	82.7-117.3		
<u>Reference (1813451-SRM2)</u>					<u>Prepared: 09-Oct-18 Analyzed: 10-Oct-18</u>					
Cadmium	94.2		mg/kg wet	0.500	107		88	83.4-116.6		
Selenium	86.0		mg/kg wet	1.50	96.8		89	79.6-120.9		
Antimony	21.0		mg/kg wet	5.00	38.3		55	25-196		
Lead	48.2		mg/kg wet	1.50	56.3		86	83-117.1		
Chromium	61.8		mg/kg wet	1.00	68.9		90	82.4-117.6		
Arsenic	72.3		mg/kg wet	1.50	81.6		89	83.2-116.8		
Silver	18.8		mg/kg wet	1.50	21.9		85	79.9-119.9		
Barium	128		mg/kg wet	1.00	132		97	82.7-117.3		
Batch S822593 - 1813451										
<u>Serial Dilution (S822593-SRD1)</u>				<u>Source: SC50884-05</u>		<u>Prepared: 09-Oct-18 Analyzed: 10-Oct-18</u>				
Antimony	< 6.30		mg/kg dry	6.30		BRL				10
Selenium	< 1.89		mg/kg dry	1.89		BRL				10
Lead	31.9		mg/kg dry	1.89		142			127	10
Cadmium	< 0.630		mg/kg dry	0.630		0.133				10
Arsenic	0.258		mg/kg dry	1.89		1.11			125	10
Silver	< 1.89		mg/kg dry	1.89		BRL				10
Chromium	1.13		mg/kg dry	1.26		5.26			129	10
Barium	112		mg/kg dry	1.26		519			129	10
<u>SW846 7471B</u>										
Batch 1813454 - EPA200/SW7000 Series										
<u>Blank (1813454-BLK1)</u>					<u>Prepared: 09-Oct-18 Analyzed: 10-Oct-18</u>					
Mercury	< 0.0270		mg/kg wet	0.0270						
<u>Duplicate (1813454-DUP1)</u>					<u>Source: SC50884-05</u>		<u>Prepared: 09-Oct-18 Analyzed: 10-Oct-18</u>			
Mercury	0.134	QM4	mg/kg dry	0.0340		0.167			22	20
<u>Matrix Spike (1813454-MS1)</u>					<u>Source: SC50884-05</u>		<u>Prepared: 09-Oct-18 Analyzed: 10-Oct-18</u>			
Mercury	0.466	QM6	mg/kg dry	0.0334	0.232	0.167	129	75-125		
<u>Matrix Spike Dup (1813454-MSD1)</u>					<u>Source: SC50884-05</u>		<u>Prepared: 09-Oct-18 Analyzed: 10-Oct-18</u>			
Mercury	0.473	QM6	mg/kg dry	0.0339	0.235	0.167	130	75-125	1	20
<u>Post Spike (1813454-PS1)</u>					<u>Source: SC50884-05</u>		<u>Prepared: 09-Oct-18 Analyzed: 10-Oct-18</u>			
Mercury	0.473	QM6	mg/kg dry	0.0358	0.248	0.167	123	80-120		
<u>Reference (1813454-SRM1)</u>					<u>Prepared: 09-Oct-18 Analyzed: 10-Oct-18</u>					
Mercury	4.50	D	mg/kg wet	0.600	3.98		113	71.6-128		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SM2540 G (11) Mod.</u>										
Batch 1813422 - General Preparation										
<u>Duplicate (1813422-DUP1)</u>										
% Solids	71.9		%			72.2			0.5	5
<u>Duplicate (1813422-DUP2)</u>										
% Solids	77.5		%			77.9			0.5	5
<u>SW846 9012B</u>										
Batch 1813484 - General Preparation										
<u>Blank (1813484-BLK1)</u>										
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>Blank (1813484-BLK2)</u>										
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>LCS (1813484-BS1)</u>										
Cyanide (total)	24.7		mg/kg wet	0.500	25.0		99	90-110		
<u>LCS (1813484-BS2)</u>										
Cyanide (total)	23.2		mg/kg wet	0.500	25.0		93	90-110		
<u>Duplicate (1813484-DUP1)</u>										
Cyanide (total)	< 0.372		mg/kg dry	0.372		BRL				35
<u>Matrix Spike (1813484-MS1)</u>										
Cyanide (total)	18.9		mg/kg dry	0.361	18.1	BRL	105	90-110		
<u>Matrix Spike Dup (1813484-MSD1)</u>										
Cyanide (total)	24.8		mg/kg dry	0.485	24.2	BRL	102	90-110	27	35
<u>Reference (1813484-SRM1)</u>										
Cyanide (total)	64.0		mg/kg wet	1.53	94.3		68	22.3-116		
Batch 1813490 - General Preparation										
<u>Blank (1813490-BLK1)</u>										
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>Blank (1813490-BLK2)</u>										
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>LCS (1813490-BS1)</u>										
Cyanide (total)	23.7		mg/kg wet	0.500	25.0		95	90-110		
<u>LCS (1813490-BS2)</u>										
Cyanide (total)	24.6		mg/kg wet	0.500	25.0		98	90-110		
<u>Duplicate (1813490-DUP1)</u>										
Cyanide (total)	5.87		mg/kg dry	0.430		5.46			7	35
<u>Matrix Spike (1813490-MS1)</u>										
Cyanide (total)	35.3		mg/kg dry	0.570	28.5	5.46	105	90-110		
<u>Matrix Spike Dup (1813490-MSD1)</u>										
Cyanide (total)	22.8	QM9	mg/kg dry	0.421	21.0	5.46	82	90-110	43	35
<u>Reference (1813490-SRM1)</u>										
Cyanide (total)	93.9		mg/kg wet	1.65	94.3		100	22.3-116		

Notes and Definitions

D	Data reported from a dilution
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
QM4	Visual evaluation of the sample indicates the RPD is above the control limit due to a non-homogeneous sample matrix.
QM6	Due to noted non-homogeneity of the QC sample matrix, the MS/MSD and/or PS did not provide reliable results for accuracy and precision. Sample results for the QC batch were accepted based on LCS/LCSD percent recoveries and RPD values.
QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM8	The spike recovery exceeded the QC control limits for the MS and/or MSD. The batch was accepted based upon acceptable PS and /or LCS recovery.
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
QR8	Analyses are not controlled on RPD values from sample concentrations that are less than 5 times the reporting level. The batch is accepted based upon the difference between the sample and duplicate is less than or equal to the reporting limit.
QR9	RPD out of acceptance range. The batch is accepted based upon LCS and/or LCSD recovery.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.



Spectrum Analytical

CHAIN OF CUSTODY RECORD

Page 1 of 2

Special Handling:

☐ Standard TAT - 7 to 10 business days☒ Rush TAT - Date Needed: _____All TATs subject to laboratory approval
Min. 24hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructedReport To: CDM ConsultantsLehigh Drive
Natick, MA 01760Invoice To: CDM ConsultantsLehigh Drive
Natick MA 01760Project No: 1515.20Site Name: Byatt's Superfund SiteLocation: 300 Fish St Franklin State: MASampler(s): Elusac CabelaTelephone #: 508 875 2057P.O. No.: 1515.2

Quote #: _____

E=Field Filtered 1=Na₂SO₃ 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=Ascorbic Acid
7=CH₃OH 8=NaHSO₄ 9=Deionized Water 10=H₂O₂ 11=Ac 12= _____

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water

O=Oil SO=Soil SI=Sludge A=Indoor/Ambient Air SG=Soil Gas

N1= _____ N2= _____ N3= _____

G=Grab C=Composite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix
50884	CDWS-6A	10/3/18	0800	G	So
02	CDWS-6B	10/3/18	0805	G	So
03	CDWS-7A	10/3/18	0815	G	So
04	CDWS-7B	10/3/18	0820	G	So
05	CDWS-8A	10/3/18	0830	G	So
06	CDWS-8AD	10/3/18	0835	G	So
07	CDWS-8AMD	10/3/18	0840	G	So
08	CDWS-8B	10/3/18	0845	G	So
09	CDWS-9	10/4/18	0915	G	So
09	CDWS-10	10/4/18	0925	G	So

# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic
1	1		
1			
1			
1			
1			
1			
1			
1			
1			
1			

Reagents	Antimony	Cyanide
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X
X	X	X

Check if chlorinated

MA DEP MCR QAM Report? ☒ Yes ☐ No
C1 DPH RSP Report? ☐ Yes ☐ No
Standard ☐ No QC
KSP A+ ☐ KSP B+ ☐ KSP B- ☐ NI Full* ☐ NI IV*
Other: _____
State-specific reporting standards: _____

List Preservative Code below:

Analysis

Requested by: Bob HertzReceived by: Bob HertzDate: 10/5/18Time: 19:55Temp °C: 22Condition upon receipt: ☐ Ambient ☒ Refrigerated ☐ Dry ☐ VOA Proton ☐ Seal for ProtonCustody Seal: ☐ Present ☐ Intact ☐ Broken

Rev. Nov 2016



Spectrum Analytical

CHAIN OF CUSTODY RECORD

Page 2 of 2

SC50884 Ben

Special Handling:

- ☐ Standard TAT - 7 to 10 business days
☒ Rush TAT - Date Needed: _____

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: <u>CDO Consultants</u>		Invoice To: <u>CDO Consultants</u>		Project No: <u>1515.2</u>	
<u>16 Hudson Drive</u> <u>Natick MA 01900</u>		<u>16 Hudson Drive</u> <u>Natick MA 01900</u>		Site Name: <u>Bior Ue Superfund Site</u>	
Telephone # <u>508 875-2657</u>		P.O. No.: <u>1515.2</u>		Location: <u>300 Fisher St. Natick</u>	
Project Mgr: <u>Austin Cabalero</u>		Quote #:		Sample(s): <u>Green Cabalero</u>	
F=Field Filtered 1=Na ₂ SO ₄ 2=HCl 3=H ₂ SO ₄ 4=HNO ₃ 5=NaOH 6=Ascorbic Acid 7=CH ₃ OH 8=NaHSO ₄ 9=Deionized Water 10=H ₂ PO ₄ 11= <u>Ac</u> 12=		I=		II=	
DW=Drinking Water CW=Groundwater SW=Surface Water WW=Waste Water O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas X1= X2= X3=		G=Grab C=Composite		Containers	
Lab ID	Sample ID	Date	Time	Type	Matrix
SC50884-10	CDWS-11	10/4/10	0935	G	SO
11	CDWS-13A	10/4/10	1000	C	SO
12	CDWS-13B	10/4/10	1005	C	SO
13	CDWS-14A	10/4/10	1015	C	SO
14	CDWS-14B	10/4/10	1020	C	SO
15	CDWS-15A	10/4/10	1030	C	SO
16	CDWS-15B	10/4/10	1035	C	SO
Requisitioned by: _____ Received by: _____ Date: _____ Time: _____					
Temp °C: <u>22</u>					
Condition upon receipt: <input checked="" type="checkbox"/> Ambient <input type="checkbox"/> Refrigerated <input type="checkbox"/> Dry VOA Pouch <input type="checkbox"/> Soft for frozen					
Custody seals: <input type="checkbox"/> Present <input type="checkbox"/> Intact <input type="checkbox"/> Broken					
Signature: <u>CDO Consultants</u>					

QA/QC Reporting Notes:
* additional charges may apply

MA DEP RCRA ERM Report? ☒ Yes ☐ No
CT DEP RCP Report? ☐ Yes ☐ No

Standard ☐ No QC ☐
ASP A+ ☐ ASP B+ ☐
No Reduced+ ☐ No Full- ☐
Mer II+ ☐ Mer IV+ ☐

Check if chlorinated ☐
State-specific reporting standards ☐



Spectrum Analytical

CHAIN OF CUSTODY RECORD

Page 2 of 2

Special Handling:

☐ Standard TAT - 7 to 10 business days☒ Rush TAT - Date Needed: _____All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes.
Samples disposed after 30 days unless otherwise instructed.Report to: ADD ConsultantsInvoice to: ADD ConsultantsProject No: 1515.216 Hudson Drive
Natick MA 0176016 Hudson Drive
Natick MA 01760Site Name: Bior Ue Superfund SiteLocation: 800 Fisher St. Franklin State: MATelephone #: 508 875-2657P.O. No.: 1515.2

Quote #:

F=Field Filtered 1=Na₂SO₄ 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=Ascorbic Acid
7=C11OH 8=Na₂SO₄ 9=Deionized Water 10=H₂PO₄ 11=PC 12=

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water

O=Oil SO=Soil SL=Sludge A=Indoor Ambient Air SG=Soil Gas

X1= X2= X3=

G=Grab C=Composite

Lab ID: Sample ID: Date: Time: Type: Matrix:

SCS0884-10 CDWS-11 10/4/18 0935 G SO

11 CDWS-13A 10/4/18 1000 C SO

12 CDWS-13B 10/4/18 1005 C SO

13 CDWS-14A 10/4/18 1015 C SO

14 CDWS-14B 10/4/18 1030 C SO

15 CDWS-15A 10/4/18 1035 C SO

16 CDWS-15B 10/4/18 1100 C SO

17 CDWS-DA6 10/4/18 1105 C SO

18 CDWS-DA6 Dup 10/4/18 1105 C SO

of VOA Vials

of Amber Glass

of Clear Glass

of Plastic

Containers

RCRA Metals

Amines

Cyanide

List Preservative Code below:

Analysis

Check if chlorinated

MA DEP VCM Report ☒ Yes ☐ No
(1) DEP RVP Report ☐ Yes ☐ NoStandard ☐ No QCDPA* ☐ No QCASP B* ☐ No QCND Reduced* ☐ No QCMer II* ☐ No QCMer IV* ☐ No QC

Other: _____

State-specific reporting standards: _____

QA/QC Reporting Notes: _____

* additional charges may apply

Relinquished by:

Received by:

Date:

Time:

Temp °C

☐ EDD format☒ Small lot

Samples and test per client request

On 10/18

Sabalanc Consultants, Inc.

Signature

Signature

10/5/18 19:56

9.2

9.2

Condition upon receipt: Custody Seal: ☐ Present ☐ Initial ☐ BrokenAmbient ☐ Ice ☒ Refrigerated ☐ Dry VOA Frozen ☐ Soil Jar Frozen

Batch Summary

1813422

General Chemistry Parameters

1813422-DUP1
1813422-DUP2
SC50884-01 (CDWS-6A)
SC50884-02 (CDWS-6B)
SC50884-03 (CDWS-7A)
SC50884-04 (CDWS-7B)
SC50884-05 (CDWS-8A)
SC50884-06 (CDWS-8AD)
SC50884-07 (CDWS-8B)
SC50884-08 (CDWS-9)
SC50884-09 (CDWS-10)
SC50884-10 (CDWS-11)
SC50884-11 (CDWS-13A)
SC50884-12 (CDWS-13B)
SC50884-13 (CDWS-14A)
SC50884-14 (CDWS-14B)
SC50884-15 (CDWS-15A)
SC50884-16 (CDWS-15B)
SC50884-17 (CDW-DA-6)
SC50884-18 (CDW-DA-6 DUP)

1813451

Total Metals by EPA 6000/7000 Series Methods

1813451-BLK1
1813451-DUP1
1813451-MS1
1813451-MSD1
1813451-PS1
1813451-SRM1
1813451-SRM2
SC50884-01 (CDWS-6A)
SC50884-02 (CDWS-6B)
SC50884-03 (CDWS-7A)
SC50884-04 (CDWS-7B)
SC50884-05 (CDWS-8A)
SC50884-06 (CDWS-8AD)
SC50884-07 (CDWS-8B)
SC50884-08 (CDWS-9)
SC50884-09 (CDWS-10)
SC50884-10 (CDWS-11)
SC50884-11 (CDWS-13A)
SC50884-12 (CDWS-13B)
SC50884-13 (CDWS-14A)
SC50884-14 (CDWS-14B)
SC50884-15 (CDWS-15A)
SC50884-16 (CDWS-15B)
SC50884-17 (CDW-DA-6)
SC50884-18 (CDW-DA-6 DUP)

1813454

Total Metals by EPA 6000/7000 Series Methods

1813454-BLK1
1813454-DUP1
1813454-MS1
1813454-MSD1
1813454-PS1
1813454-SRM1
SC50884-01 (CDWS-6A)
SC50884-02 (CDWS-6B)
SC50884-03 (CDWS-7A)
SC50884-04 (CDWS-7B)
SC50884-05 (CDWS-8A)
SC50884-06 (CDWS-8AD)
SC50884-07 (CDWS-8B)
SC50884-08 (CDWS-9)
SC50884-09 (CDWS-10)
SC50884-10 (CDWS-11)
SC50884-11 (CDWS-13A)
SC50884-12 (CDWS-13B)
SC50884-13 (CDWS-14A)
SC50884-14 (CDWS-14B)
SC50884-15 (CDWS-15A)
SC50884-16 (CDWS-15B)
SC50884-17 (CDW-DA-6)
SC50884-18 (CDW-DA-6 DUP)

1813484

General Chemistry Parameters

1813484-BLK1
1813484-BLK2
1813484-BS1
1813484-BS2
1813484-DUP1
1813484-MS1
1813484-MSD1
1813484-SRM1
SC50884-01 (CDWS-6A)
SC50884-02 (CDWS-6B)
SC50884-03 (CDWS-7A)
SC50884-04 (CDWS-7B)
SC50884-05 (CDWS-8A)
SC50884-06 (CDWS-8AD)
SC50884-07 (CDWS-8B)
SC50884-08 (CDWS-9)
SC50884-09 (CDWS-10)
SC50884-10 (CDWS-11)
SC50884-11 (CDWS-13A)
SC50884-12 (CDWS-13B)

1813490**General Chemistry Parameters**

1813490-BLK1
1813490-BLK2
1813490-BS1
1813490-BS2
1813490-DUP1
1813490-MS1
1813490-MSD1
1813490-SRM1
SC50884-13 (CDWS-14A)
SC50884-14 (CDWS-14B)
SC50884-15 (CDWS-15A)
SC50884-16 (CDWS-15B)
SC50884-17 (CDW-DA-6)
SC50884-18 (CDW-DA-6 DUP)

S822593**Total Metals by EPA 6000/7000 Series Methods**

S822593-SRD1

Report Date:
15-Oct-18 14:27

Laboratory Report SC50960

CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760
Attn: Susan Cahalan-Roach

Project: BTAT LLC Superfund Site - Franklin, MA
Project #: 1515.20

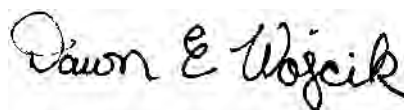
I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393



Authorized by:

Dawn Wojcik
Laboratory Director



Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.

Please note that this report contains 34 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our Quality web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

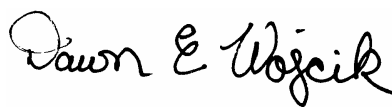
Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC50960
Project: BTAT LLC Superfund Site - Franklin, MA
Project Number: 1515.20

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SC50960-01	CDW-S16A	Soil	09-Oct-18 10:12	10-Oct-18 15:20
SC50960-02	CDW-S16B	Soil	09-Oct-18 10:15	10-Oct-18 15:20
SC50960-03	CDW-S17A	Soil	09-Oct-18 10:20	10-Oct-18 15:20
SC50960-04	CDW-S17B	Soil	09-Oct-18 10:25	10-Oct-18 15:20
SC50960-05	CDW-S18A	Soil	09-Oct-18 10:40	10-Oct-18 15:20
SC50960-06	CDW-S18B	Soil	09-Oct-18 10:45	10-Oct-18 15:20
SC50960-07	CDW-S19	Soil	09-Oct-18 10:50	10-Oct-18 15:20
SC50960-08	CDW-S20A	Soil	09-Oct-18 10:55	10-Oct-18 15:20
SC50960-09	CDW-S20B	Soil	09-Oct-18 10:58	10-Oct-18 15:20
SC50960-10	CDW-S21A	Soil	09-Oct-18 11:10	10-Oct-18 15:20
SC50960-11	CDW-S21B	Soil	09-Oct-18 11:12	10-Oct-18 15:20
SC50960-12	CDW-S21B-Dup	Soil	09-Oct-18 11:12	10-Oct-18 15:20
SC50960-13	CDW-S22A	Soil	09-Oct-18 11:24	10-Oct-18 15:20
SC50960-14	CDW-S22B	Soil	09-Oct-18 11:25	10-Oct-18 15:20
SC50960-15	CDW-S23A	Soil	09-Oct-18 11:30	10-Oct-18 15:20
SC50960-16	CDW-S23B	Soil	09-Oct-18 11:35	10-Oct-18 15:20

MassDEP Analytical Protocol Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.			Project #: 1515.20		
Project Location: BTAT LLC Superfund Site - Franklin, MA			RTN:		
This form provides certifications for the following data set:			SC50960-01 through SC50960-16		
Matrices: Soil					
CAM Protocol					
8260 VOC CAM II A	✓ 7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
✓ 6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	✓ 9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B
<i>Affirmative responses to questions A through F are required for Presumptive Certainty's status</i>					
A	Were all samples received in a condition consistent with those described on the Chain of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?				✓ Yes No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?				✓ Yes No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?				✓ Yes No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?				✓ Yes No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?				Yes No Yes No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to questions A through E)?				✓ Yes No
<i>Responses to questions G, H and I below are required for Presumptive Certainty's status</i>					
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?				Yes ✓ No
Data User Note: Data that achieve Presumptive Certainty's status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.					
H	Were all QC performance standards specified in the CAM protocol(s) achieved?				Yes ✓ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?				Yes ✓ No
<i>All negative responses are addressed in a case narrative on the cover page of this report.</i>					
<p><i>I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.</i></p> <div style="text-align: right; margin-top: 20px;">  Dawn E. Wojcik Laboratory Director Date: 10/15/2018 </div>					

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 3.2 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 6010C

Laboratory Control Samples:

1813554 SRM/SRMD

Arsenic percent recoveries (86/83) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

CDW-S16A
CDW-S16B
CDW-S17A
CDW-S17B
CDW-S18A
CDW-S18B
CDW-S19
CDW-S20A
CDW-S20B
CDW-S21A
CDW-S21B
CDW-S21B-Dup
CDW-S22A
CDW-S22B
CDW-S23A
CDW-S23B

SW846 6010C

Laboratory Control Samples:

1813554 SRM/SRMD

Barium percent recoveries (88/82) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

CDW-S16A
CDW-S16B
CDW-S17A
CDW-S17B
CDW-S18A
CDW-S18B
CDW-S19
CDW-S20A
CDW-S20B
CDW-S21A
CDW-S21B
CDW-S21B-Dup
CDW-S22A
CDW-S22B
CDW-S23A
CDW-S23B

Cadmium percent recoveries (86/82) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

CDW-S16A
CDW-S16B
CDW-S17A
CDW-S17B
CDW-S18A
CDW-S18B
CDW-S19
CDW-S20A
CDW-S20B
CDW-S21A
CDW-S21B
CDW-S21B-Dup
CDW-S22A
CDW-S22B
CDW-S23A
CDW-S23B

SW846 6010C

Laboratory Control Samples:

1813554 SRM/SRMD

Chromium percent recoveries (85/81) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

CDW-S16A
CDW-S16B
CDW-S17A
CDW-S17B
CDW-S18A
CDW-S18B
CDW-S19
CDW-S20A
CDW-S20B
CDW-S21A
CDW-S21B
CDW-S21B-Dup
CDW-S22A
CDW-S22B
CDW-S23A
CDW-S23B

Selenium percent recoveries (84/78) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

CDW-S16A
CDW-S16B
CDW-S17A
CDW-S17B
CDW-S18A
CDW-S18B
CDW-S19
CDW-S20A
CDW-S20B
CDW-S21A
CDW-S21B
CDW-S21B-Dup
CDW-S22A
CDW-S22B
CDW-S23A
CDW-S23B

Spikes:

1813554-MS1 *Source: SC50960-01*

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Lead

1813554-MSD1 *Source: SC50960-01*

RPD out of acceptance range. The batch is accepted based upon LCS and/or LCSD recovery.

Barium

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Lead

SW846 6010C

Spikes:

1813554-MSD1 *Source: SC50960-01*

The spike recovery was outside of QC acceptance limits for the MS, MSD and/or PS due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.

Barium

1813554-PS1 *Source: SC50960-01*

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Lead

The spike recovery was outside of QC acceptance limits for the MS, MSD and/or PS due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.

Barium

Duplicates:

1813554-DUP1 *Source: SC50960-01*

Analyses are not controlled on RPD values from sample concentrations that are less than 5 times the reporting level. The batch is accepted based upon the difference between the sample and duplicate is less than or equal to the reporting limit.

Arsenic

RPD out of acceptance range. The batch is accepted based upon LCS and/or LCSD recovery.

Barium

Samples:

SC50960-02 *CDW-S16B*

The Reporting Limit has been raised to account for matrix interference.

Barium

SC50960-07 *CDW-S19*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Lead

The Reporting Limit has been raised to account for matrix interference.

Barium

SW846 7471B

Spikes:

1813555-MS1 *Source: SC50960-01*

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Mercury

1813555-MSD1 *Source: SC50960-01*

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Mercury

SW846 7471B

Samples:

SC50960-01 *CDW-S16A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50960-02 *CDW-S16B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50960-07 *CDW-S19*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50960-11 *CDW-S21B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50960-12 *CDW-S21B-Dup*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50960-13 *CDW-S22A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50960-14 *CDW-S22B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

Sample Acceptance Check Form

Client: CDW Consultants, Inc.
Project: BTAT LLC Superfund Site - Franklin, MA / 1515.20
Work Order: SC50960
Sample(s) received on: 10/10/2018

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Were custody seals present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were custody seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Were samples received at a temperature of $\leq 6^{\circ}\text{C}$?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples refrigerated upon transfer to laboratory representative?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were sample containers received intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples accompanied by a Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did sample container labels agree with Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples received within method-specific holding times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Summary of Hits

Lab ID: SC50960-01

Client ID: CDW-S16A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	57.2		14.8	mg/kg	SW846 6010C
Arsenic	69.2		4.43	mg/kg	SW846 6010C
Barium	2230		2.96	mg/kg	SW846 6010C
Cadmium	32.5		1.48	mg/kg	SW846 6010C
Chromium	19.7		2.96	mg/kg	SW846 6010C
Lead	5140		4.43	mg/kg	SW846 6010C
Mercury	6.04	GS1, D0.463		mg/kg	SW846 7471B

Lab ID: SC50960-02

Client ID: CDW-S16B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	33.6		8.80	mg/kg	SW846 6010C
Arsenic	26.9		2.64	mg/kg	SW846 6010C
Barium	1860	D, R01	8.80	mg/kg	SW846 6010C
Cadmium	12.5		0.880	mg/kg	SW846 6010C
Chromium	13.6		1.76	mg/kg	SW846 6010C
Lead	5090		2.64	mg/kg	SW846 6010C
Mercury	5.04	GS1, D0.532		mg/kg	SW846 7471B

Lab ID: SC50960-03

Client ID: CDW-S17A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	24.5		12.0	mg/kg	SW846 6010C
Arsenic	52.8		3.59	mg/kg	SW846 6010C
Barium	3020		2.40	mg/kg	SW846 6010C
Cadmium	8.32		1.20	mg/kg	SW846 6010C
Chromium	85.9		2.40	mg/kg	SW846 6010C
Lead	7930		3.59	mg/kg	SW846 6010C
Mercury	1.64		0.0714	mg/kg	SW846 7471B

Lab ID: SC50960-04

Client ID: CDW-S17B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	34.3		20.7	mg/kg	SW846 6010C
Arsenic	59.1		6.20	mg/kg	SW846 6010C
Barium	1220		4.14	mg/kg	SW846 6010C
Cadmium	14.2		2.07	mg/kg	SW846 6010C
Chromium	27.4		4.14	mg/kg	SW846 6010C
Lead	3100		6.20	mg/kg	SW846 6010C
Mercury	1.13		0.113	mg/kg	SW846 7471B

Lab ID: SC50960-05**Client ID:** CDW-S18A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	14.5		8.89	mg/kg	SW846 6010C
Arsenic	16.9		2.67	mg/kg	SW846 6010C
Barium	760		1.78	mg/kg	SW846 6010C
Cadmium	2.39		0.889	mg/kg	SW846 6010C
Chromium	4.58		1.78	mg/kg	SW846 6010C
Lead	3290		2.67	mg/kg	SW846 6010C
Mercury	0.910		0.0536	mg/kg	SW846 7471B

Lab ID: SC50960-06**Client ID:** CDW-S18B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	16.4		3.99	mg/kg	SW846 6010C
Barium	777		2.66	mg/kg	SW846 6010C
Cadmium	3.18		1.33	mg/kg	SW846 6010C
Chromium	7.02		2.66	mg/kg	SW846 6010C
Lead	2470		3.99	mg/kg	SW846 6010C
Mercury	0.790		0.0732	mg/kg	SW846 7471B

Lab ID: SC50960-07**Client ID:** CDW-S19

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	41.1		8.87	mg/kg	SW846 6010C
Arsenic	99.2		2.66	mg/kg	SW846 6010C
Barium	6560	D, R01	17.7	mg/kg	SW846 6010C
Cadmium	32.5		0.887	mg/kg	SW846 6010C
Chromium	280		1.77	mg/kg	SW846 6010C
Lead	30800	GS1, D	26.6	mg/kg	SW846 6010C
Mercury	2.79	GS1, D	0.258	mg/kg	SW846 7471B
Cyanide (total)	1.57		0.630	mg/kg	SW846 9012B

Lab ID: SC50960-08**Client ID:** CDW-S20A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	54.7		34.1	mg/kg	SW846 6010C
Arsenic	10.6		10.2	mg/kg	SW846 6010C
Barium	727		6.82	mg/kg	SW846 6010C
Cadmium	33.2		3.41	mg/kg	SW846 6010C
Chromium	10.1		6.82	mg/kg	SW846 6010C
Lead	748		10.2	mg/kg	SW846 6010C
Mercury	1.41		0.186	mg/kg	SW846 7471B

Lab ID: SC50960-09**Client ID:** CDW-S20B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	45.3		31.4	mg/kg	SW846 6010C
Barium	926		6.27	mg/kg	SW846 6010C
Cadmium	29.9		3.14	mg/kg	SW846 6010C
Chromium	11.8		6.27	mg/kg	SW846 6010C
Lead	845		9.41	mg/kg	SW846 6010C
Mercury	0.719		0.181	mg/kg	SW846 7471B

Lab ID: SC50960-10**Client ID:** CDW-S21A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Barium	1010		5.71	mg/kg	SW846 6010C
Cadmium	8.45		2.86	mg/kg	SW846 6010C
Chromium	11.3		5.71	mg/kg	SW846 6010C
Lead	998		8.57	mg/kg	SW846 6010C
Mercury	1.04		0.161	mg/kg	SW846 7471B

Lab ID: SC50960-11**Client ID:** CDW-S21B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	13.5		12.0	mg/kg	SW846 6010C
Arsenic	19.0		3.61	mg/kg	SW846 6010C
Barium	1050		2.41	mg/kg	SW846 6010C
Cadmium	3.79		1.20	mg/kg	SW846 6010C
Chromium	10.8		2.41	mg/kg	SW846 6010C
Lead	5800		3.61	mg/kg	SW846 6010C
Mercury	29.1	GS1, D1.40		mg/kg	SW846 7471B

Lab ID: SC50960-12**Client ID:** CDW-S21B-Dup

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	35.9		20.8	mg/kg	SW846 6010C
Arsenic	38.2		6.24	mg/kg	SW846 6010C
Barium	2350		4.16	mg/kg	SW846 6010C
Cadmium	6.59		2.08	mg/kg	SW846 6010C
Chromium	24.2		4.16	mg/kg	SW846 6010C
Lead	15600		6.24	mg/kg	SW846 6010C
Mercury	10.9	GS1, D1.25		mg/kg	SW846 7471B

Lab ID: SC50960-13**Client ID:** CDW-S22A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	13.6		10.9	mg/kg	SW846 6010C
Arsenic	23.5		3.27	mg/kg	SW846 6010C
Barium	1140		2.18	mg/kg	SW846 6010C
Cadmium	1.11		1.09	mg/kg	SW846 6010C
Chromium	10.6		2.18	mg/kg	SW846 6010C
Lead	3300		3.27	mg/kg	SW846 6010C
Mercury	4.05	GS1, D0.647		mg/kg	SW846 7471B

This laboratory report is not valid without an authorized signature on the cover page.

Lab ID: SC50960-14**Client ID:** CDW-S22B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	13.3		7.81	mg/kg	SW846 6010C
Arsenic	11.0		2.34	mg/kg	SW846 6010C
Barium	822		1.56	mg/kg	SW846 6010C
Cadmium	0.851		0.781	mg/kg	SW846 6010C
Chromium	6.34		1.56	mg/kg	SW846 6010C
Lead	2770		2.34	mg/kg	SW846 6010C
Mercury	4.92	GS1, D0.482		mg/kg	SW846 7471B

Lab ID: SC50960-15**Client ID:** CDW-S23A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	6.40		5.77	mg/kg	SW846 6010C
Arsenic	19.7		1.73	mg/kg	SW846 6010C
Barium	679		1.15	mg/kg	SW846 6010C
Cadmium	3.33		0.577	mg/kg	SW846 6010C
Chromium	15.2		1.15	mg/kg	SW846 6010C
Lead	960		1.73	mg/kg	SW846 6010C
Mercury	0.938		0.0342	mg/kg	SW846 7471B

Lab ID: SC50960-16**Client ID:** CDW-S23B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	6.02		2.03	mg/kg	SW846 6010C
Barium	496		1.35	mg/kg	SW846 6010C
Chromium	4.95		1.35	mg/kg	SW846 6010C
Lead	770		2.03	mg/kg	SW846 6010C
Mercury	0.395		0.0372	mg/kg	SW846 7471B

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification

CDW-S16A

SC50960-01

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 10:12

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 4.43		mg/kg dry	4.43	0.479	1	SW846 6010C	11-Oct-18	13-Oct-18	SC/EDT	1813554	
7440-38-2	Arsenic	69.2		mg/kg dry	4.43	0.562	1	"	"	"	"	"	
7440-39-3	Barium	2,230		mg/kg dry	2.96	0.349	1	"	"	14-Oct-18	"	"	
7440-43-9	Cadmium	32.5		mg/kg dry	1.48	0.0766	1	"	"	13-Oct-18	"	"	
7440-47-3	Chromium	19.7		mg/kg dry	2.96	0.393	1	"	"	"	"	"	
7439-97-6	Mercury	6.04	GS1, D	mg/kg dry	0.463	0.129	5	SW846 7471B	"	12-Oct-18	ABW	1813555	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	5,140		mg/kg dry	4.43	0.627	1	SW846 6010C	"	13-Oct-18	SC/EDT	1813554	
7440-36-0	Antimony	57.2		mg/kg dry	14.8	1.11	1	"	"	"	"	"	
7782-49-2	Selenium	< 4.43		mg/kg dry	4.43	0.846	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	31.4		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813524	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.885		mg/kg dry	0.885	0.699	1	SW846 9012B	10-Oct-18	12-Oct-18	RLT	1813535	

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Sample Identification

CDW-S16B

SC50960-02

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 10:15

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 2.64		mg/kg dry	2.64	0.285	1	SW846 6010C	11-Oct-18	13-Oct-18	SC/EDT	1813554	
7440-38-2	Arsenic	26.9		mg/kg dry	2.64	0.335	1	"	"	"	"	"	
7440-39-3	Barium	1,860	D, R01	mg/kg dry	8.80	1.04	5	"	"	15-Oct-18	"	"	
7440-43-9	Cadmium	12.5		mg/kg dry	0.880	0.0456	1	"	"	13-Oct-18	"	"	
7440-47-3	Chromium	13.6		mg/kg dry	1.76	0.234	1	"	"	"	"	"	
7439-97-6	Mercury	5.04	GS1, D	mg/kg dry	0.532	0.148	10	SW846 7471B	"	12-Oct-18	ABW	1813555	

Prepared by method SW846 3051A

7439-92-1	Lead	5,090		mg/kg dry	2.64	0.373	1	SW846 6010C	"	13-Oct-18	SC/EDT	1813554	
7440-36-0	Antimony	33.6		mg/kg dry	8.80	0.662	1	"	"	"	"	"	
7782-49-2	Selenium	< 2.64		mg/kg dry	2.64	0.504	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	52.3		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813524	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.546		mg/kg dry	0.546	0.432	1	SW846 9012B	10-Oct-18	12-Oct-18	RLT	1813535	
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Sample Identification

CDW-S17A

SC50960-03

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 10:20

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 3.59		mg/kg dry	3.59	0.388	1	SW846 6010C	11-Oct-18	13-Oct-18	SC/EDT	1813554	
7440-38-2	Arsenic	52.8		mg/kg dry	3.59	0.455	1	"	"	"	"	"	
7440-39-3	Barium	3,020		mg/kg dry	2.40	0.283	1	"	"	14-Oct-18	"	"	
7440-43-9	Cadmium	8.32		mg/kg dry	1.20	0.0620	1	"	"	13-Oct-18	"	"	
7440-47-3	Chromium	85.9		mg/kg dry	2.40	0.319	1	"	"	"	"	"	
7439-97-6	Mercury	1.64		mg/kg dry	0.0714	0.0198	1	SW846 7471B	"	12-Oct-18	ABW	1813555	

Prepared by method SW846 3051A

7439-92-1	Lead	7,930		mg/kg dry	3.59	0.508	1	SW846 6010C	"	13-Oct-18	SC/EDT	1813554	
7440-36-0	Antimony	24.5		mg/kg dry	12.0	0.901	1	"	"	"	"	"	
7782-49-2	Selenium	< 3.59		mg/kg dry	3.59	0.685	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	40.0		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813524	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.780		mg/kg dry	0.780	0.616	1	SW846 9012B	10-Oct-18	12-Oct-18	RLT	1813535	
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Sample Identification

CDW-S17B

SC50960-04

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 10:25

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 6.20		mg/kg dry	6.20	0.670	1	SW846 6010C	11-Oct-18	13-Oct-18	SC/EDT	1813554	
7440-38-2	Arsenic	59.1		mg/kg dry	6.20	0.786	1	"	"	"	"	"	
7440-39-3	Barium	1,220		mg/kg dry	4.14	0.488	1	"	"	14-Oct-18	"	"	
7440-43-9	Cadmium	14.2		mg/kg dry	2.07	0.107	1	"	"	13-Oct-18	"	"	
7440-47-3	Chromium	27.4		mg/kg dry	4.14	0.550	1	"	"	"	"	"	
7439-97-6	Mercury	1.13		mg/kg dry	0.113	0.0312	1	SW846 7471B	"	12-Oct-18	ABW	1813555	

Prepared by method SW846 3051A

7439-92-1	Lead	3,100		mg/kg dry	6.20	0.877	1	SW846 6010C	"	13-Oct-18	SC/EDT	1813554	
7440-36-0	Antimony	34.3		mg/kg dry	20.7	1.55	1	"	"	"	"	"	
7782-49-2	Selenium	< 6.20		mg/kg dry	6.20	1.18	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	23.2		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813524	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 1.20		mg/kg dry	1.20	0.951	1	SW846 9012B	10-Oct-18	12-Oct-18	RLT	1813535	
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Sample Identification

CDW-S18A

SC50960-05

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 10:40

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 2.67		mg/kg dry	2.67	0.288	1	SW846 6010C	11-Oct-18	13-Oct-18	SC/EDT	1813554	
7440-38-2	Arsenic	16.9		mg/kg dry	2.67	0.338	1	"	"	"	"	"	
7440-39-3	Barium	760		mg/kg dry	1.78	0.210	1	"	"	14-Oct-18	"	"	
7440-43-9	Cadmium	2.39		mg/kg dry	0.889	0.0460	1	"	"	13-Oct-18	"	"	
7440-47-3	Chromium	4.58		mg/kg dry	1.78	0.236	1	"	"	"	"	"	
7439-97-6	Mercury	0.910		mg/kg dry	0.0536	0.0149	1	SW846 7471B	"	12-Oct-18	ABW	1813555	

Prepared by method SW846 3051A

7439-92-1	Lead	3,290		mg/kg dry	2.67	0.377	1	SW846 6010C	"	13-Oct-18	SC/EDT	1813554	
7440-36-0	Antimony	14.5		mg/kg dry	8.89	0.668	1	"	"	"	"	"	
7782-49-2	Selenium	< 2.67		mg/kg dry	2.67	0.508	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	51.9		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813524	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.526		mg/kg dry	0.526	0.415	1	SW846 9012B	10-Oct-18	12-Oct-18	RLT	1813535	
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Sample Identification

CDW-S18B

SC50960-06

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 10:45

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 3.99		mg/kg dry	3.99	0.431	1	SW846 6010C	11-Oct-18	13-Oct-18	SC/EDT	1813554	
7440-38-2	Arsenic	16.4		mg/kg dry	3.99	0.506	1	"	"	"	"	"	
7440-39-3	Barium	777		mg/kg dry	2.66	0.314	1	"	"	14-Oct-18	"	"	
7440-43-9	Cadmium	3.18		mg/kg dry	1.33	0.0690	1	"	"	13-Oct-18	"	"	
7440-47-3	Chromium	7.02		mg/kg dry	2.66	0.354	1	"	"	"	"	"	
7439-97-6	Mercury	0.790		mg/kg dry	0.0732	0.0203	1	SW846 7471B	"	12-Oct-18	ABW	1813555	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	2,470		mg/kg dry	3.99	0.565	1	SW846 6010C	"	13-Oct-18	SC/EDT	1813554	
7440-36-0	Antimony	< 13.3		mg/kg dry	13.3	1.00	1	"	"	"	"	"	
7782-49-2	Selenium	< 3.99		mg/kg dry	3.99	0.762	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	35.2		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813524	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.789		mg/kg dry	0.789	0.623	1	SW846 9012B	10-Oct-18	12-Oct-18	RLT	1813535	

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Sample Identification

CDW-S19

SC50960-07

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 10:50

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 2.66		mg/kg dry	2.66	0.287	1	SW846 6010C	11-Oct-18	13-Oct-18	SC/EDT	1813554	
7440-38-2	Arsenic	99.2		mg/kg dry	2.66	0.337	1	"	"	"	"	"	
7440-39-3	Barium	6,560	D, R01	mg/kg dry	17.7	2.09	10	"	"	14-Oct-18	"	"	
7440-43-9	Cadmium	32.5		mg/kg dry	0.887	0.0460	1	"	"	13-Oct-18	"	"	
7440-47-3	Chromium	280		mg/kg dry	1.77	0.236	1	"	"	"	"	"	
7439-97-6	Mercury	2.79	GS1, D	mg/kg dry	0.258	0.0716	5	SW846 7471B	"	12-Oct-18	ABW	1813555	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	30,800	GS1, D	mg/kg dry	26.6	3.76	10	SW846 6010C	"	14-Oct-18	EDT	1813554	
7440-36-0	Antimony	41.1		mg/kg dry	8.87	0.667	1	"	"	13-Oct-18	"	"	
7782-49-2	Selenium	< 2.66		mg/kg dry	2.66	0.507	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	54.3		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813524	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	1.57		mg/kg dry	0.630	0.498	1	SW846 9012B	10-Oct-18	12-Oct-18	RLT	1813535	

Sample Identification

CDW-S20A

SC50960-08

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 10:55

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 10.2		mg/kg dry	10.2	1.11	1	SW846 6010C	11-Oct-18	13-Oct-18	SC/EDT	1813554	
7440-38-2	Arsenic	10.6		mg/kg dry	10.2	1.30	1	"	"	"	"	"	
7440-39-3	Barium	727		mg/kg dry	6.82	0.805	1	"	"	14-Oct-18	"	"	
7440-43-9	Cadmium	33.2		mg/kg dry	3.41	0.177	1	"	"	13-Oct-18	"	"	
7440-47-3	Chromium	10.1		mg/kg dry	6.82	0.907	1	"	"	"	"	"	
7439-97-6	Mercury	1.41		mg/kg dry	0.186	0.0517	1	SW846 7471B	"	12-Oct-18	ABW	1813555	

Prepared by method SW846 3051A

7439-92-1	Lead	748		mg/kg dry	10.2	1.45	1	SW846 6010C	"	13-Oct-18	SC/EDT	1813554	
7440-36-0	Antimony	54.7		mg/kg dry	34.1	2.57	1	"	"	"	"	"	
7782-49-2	Selenium	< 10.2		mg/kg dry	10.2	1.95	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	14.3		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813524	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 1.93		mg/kg dry	1.93	1.53	1	SW846 9012B	10-Oct-18	12-Oct-18	RLT	1813535	
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Sample Identification

CDW-S20B

SC50960-09

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 10:58

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 9.41		mg/kg dry	9.41	1.02	1	SW846 6010C	11-Oct-18	13-Oct-18	SC/EDT	1813554	
7440-38-2	Arsenic	< 9.41		mg/kg dry	9.41	1.19	1	"	"	"	"	"	
7440-39-3	Barium	926		mg/kg dry	6.27	0.740	1	"	"	14-Oct-18	"	"	
7440-43-9	Cadmium	29.9		mg/kg dry	3.14	0.162	1	"	"	13-Oct-18	"	"	
7440-47-3	Chromium	11.8		mg/kg dry	6.27	0.834	1	"	"	"	"	"	
7439-97-6	Mercury	0.719		mg/kg dry	0.181	0.0502	1	SW846 7471B	"	12-Oct-18	ABW	1813555	

Prepared by method SW846 3051A

7439-92-1	Lead	845		mg/kg dry	9.41	1.33	1	SW846 6010C	"	13-Oct-18	SC/EDT	1813554	
7440-36-0	Antimony	45.3		mg/kg dry	31.4	2.36	1	"	"	"	"	"	
7782-49-2	Selenium	< 9.41		mg/kg dry	9.41	1.79	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	14.9		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813524	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 1.65		mg/kg dry	1.65	1.31	1	SW846 9012B	10-Oct-18	12-Oct-18	RLT	1813535	
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Sample Identification

CDW-S21A

SC50960-10

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 11:10

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 8.57		mg/kg dry	8.57	0.926	1	SW846 6010C	11-Oct-18	13-Oct-18	SC/EDT	1813554	
7440-38-2	Arsenic	< 8.57		mg/kg dry	8.57	1.09	1	"	"	"	"	"	
7440-39-3	Barium	1,010		mg/kg dry	5.71	0.674	1	"	"	14-Oct-18	"	"	
7440-43-9	Cadmium	8.45		mg/kg dry	2.86	0.148	1	"	"	13-Oct-18	"	"	
7440-47-3	Chromium	11.3		mg/kg dry	5.71	0.760	1	"	"	"	"	"	
7439-97-6	Mercury	1.04		mg/kg dry	0.161	0.0448	1	SW846 7471B	"	12-Oct-18	ABW	1813555	

Prepared by method SW846 3051A

7439-92-1	Lead	998		mg/kg dry	8.57	1.21	1	SW846 6010C	"	13-Oct-18	SC/EDT	1813554	
7440-36-0	Antimony	< 28.6		mg/kg dry	28.6	2.15	1	"	"	"	"	"	
7782-49-2	Selenium	< 8.57		mg/kg dry	8.57	1.63	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	16.7		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813524	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 1.73		mg/kg dry	1.73	1.37	1	SW846 9012B	11-Oct-18	12-Oct-18	RLT	1813598	
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Sample Identification

CDW-S21B

SC50960-11

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 11:12

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 3.61		mg/kg dry	3.61	0.390	1	SW846 6010C	11-Oct-18	13-Oct-18	SC/EDT	1813554	
7440-38-2	Arsenic	19.0		mg/kg dry	3.61	0.457	1	"	"	"	"	"	
7440-39-3	Barium	1,050		mg/kg dry	2.41	0.284	1	"	"	14-Oct-18	"	"	
7440-43-9	Cadmium	3.79		mg/kg dry	1.20	0.0623	1	"	"	13-Oct-18	"	"	
7440-47-3	Chromium	10.8		mg/kg dry	2.41	0.320	1	"	"	"	"	"	
7439-97-6	Mercury	29.1	GS1, D	mg/kg dry	1.40	0.389	20	SW846 7471B	"	12-Oct-18	ABW	1813555	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	5,800		mg/kg dry	3.61	0.510	1	SW846 6010C	"	13-Oct-18	SC/EDT	1813554	
7440-36-0	Antimony	13.5		mg/kg dry	12.0	0.905	1	"	"	"	"	"	
7782-49-2	Selenium	< 3.61		mg/kg dry	3.61	0.688	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	39.0		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813524	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.707		mg/kg dry	0.707	0.558	1	SW846 9012B	11-Oct-18	12-Oct-18	RLT	1813598	

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Sample Identification

CDW-S21B-Dup

SC50960-12

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 11:12

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 6.24		mg/kg dry	6.24	0.674	1	SW846 6010C	11-Oct-18	13-Oct-18	SC/EDT	1813554	
7440-38-2	Arsenic	38.2		mg/kg dry	6.24	0.790	1	"	"	"	"	"	
7440-39-3	Barium	2,350		mg/kg dry	4.16	0.491	1	"	"	14-Oct-18	"	"	
7440-43-9	Cadmium	6.59		mg/kg dry	2.08	0.108	1	"	"	13-Oct-18	"	"	
7440-47-3	Chromium	24.2		mg/kg dry	4.16	0.553	1	"	"	"	"	"	
7439-97-6	Mercury	10.9	GS1, D	mg/kg dry	1.25	0.348	10	SW846 7471B	"	12-Oct-18	ABW	1813555	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	15,600		mg/kg dry	6.24	0.881	1	SW846 6010C	"	13-Oct-18	SC/EDT	1813554	
7440-36-0	Antimony	35.9		mg/kg dry	20.8	1.56	1	"	"	"	"	"	
7782-49-2	Selenium	< 6.24		mg/kg dry	6.24	1.19	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	23.2		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813524	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 1.40		mg/kg dry	1.40	1.10	1	SW846 9012B	11-Oct-18	12-Oct-18	RLT	1813598	

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Sample Identification

CDW-S22A

SC50960-13

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 11:24

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 3.27		mg/kg dry	3.27	0.353	1	SW846 6010C	11-Oct-18	13-Oct-18	SC/EDT	1813554	
7440-38-2	Arsenic	23.5		mg/kg dry	3.27	0.414	1	"	"	"	"	"	
7440-39-3	Barium	1,140		mg/kg dry	2.18	0.257	1	"	"	14-Oct-18	"	"	
7440-43-9	Cadmium	1.11		mg/kg dry	1.09	0.0565	1	"	"	13-Oct-18	"	"	
7440-47-3	Chromium	10.6		mg/kg dry	2.18	0.290	1	"	"	"	"	"	
7439-97-6	Mercury	4.05	GS1, D	mg/kg dry	0.647	0.180	10	SW846 7471B	"	12-Oct-18	ABW	1813555	

Prepared by method SW846 3051A

7439-92-1	Lead	3,300		mg/kg dry	3.27	0.462	1	SW846 6010C	"	13-Oct-18	SC/EDT	1813554	
7440-36-0	Antimony	13.6		mg/kg dry	10.9	0.820	1	"	"	"	"	"	
7782-49-2	Selenium	< 3.27		mg/kg dry	3.27	0.624	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	45.3		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813524	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.571		mg/kg dry	0.571	0.451	1	SW846 9012B	11-Oct-18	12-Oct-18	RLT	1813598	
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Sample Identification

CDW-S22B

SC50960-14

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 11:25

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 2.34		mg/kg dry	2.34	0.253	1	SW846 6010C	11-Oct-18	13-Oct-18	SC/EDT	1813554	
7440-38-2	Arsenic	11.0		mg/kg dry	2.34	0.297	1	"	"	"	"	"	
7440-39-3	Barium	822		mg/kg dry	1.56	0.184	1	"	"	14-Oct-18	"	"	
7440-43-9	Cadmium	0.851		mg/kg dry	0.781	0.0405	1	"	"	13-Oct-18	"	"	
7440-47-3	Chromium	6.34		mg/kg dry	1.56	0.208	1	"	"	"	"	"	
7439-97-6	Mercury	4.92	GS1, D	mg/kg dry	0.482	0.134	10	SW846 7471B	"	12-Oct-18	ABW	1813555	

Prepared by method SW846 3051A

7439-92-1	Lead	2,770		mg/kg dry	2.34	0.331	1	SW846 6010C	"	13-Oct-18	SC/EDT	1813554	
7440-36-0	Antimony	13.3		mg/kg dry	7.81	0.588	1	"	"	"	"	"	
7782-49-2	Selenium	< 2.34		mg/kg dry	2.34	0.447	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	59.3		%				1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813524	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.449		mg/kg dry	0.449	0.355	1	SW846 9012B	11-Oct-18	12-Oct-18	RLT	1813598	
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Sample Identification

CDW-S23A

SC50960-15

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 11:30

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.73		mg/kg dry	1.73	0.187	1	SW846 6010C	11-Oct-18	13-Oct-18	SC/EDT	1813554	
7440-38-2	Arsenic	19.7		mg/kg dry	1.73	0.219	1	"	"	"	"	"	
7440-39-3	Barium	679		mg/kg dry	1.15	0.136	1	"	"	14-Oct-18	"	"	
7440-43-9	Cadmium	3.33		mg/kg dry	0.577	0.0299	1	"	"	13-Oct-18	"	"	
7440-47-3	Chromium	15.2		mg/kg dry	1.15	0.154	1	"	"	"	"	"	
7439-97-6	Mercury	0.938		mg/kg dry	0.0342	0.0095	1	SW846 7471B	"	12-Oct-18	ABW	1813555	

Prepared by method SW846 3051A

7439-92-1	Lead	960		mg/kg dry	1.73	0.245	1	SW846 6010C	"	13-Oct-18	SC/EDT	1813554	
7440-36-0	Antimony	6.40		mg/kg dry	5.77	0.434	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.73		mg/kg dry	1.73	0.330	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	80.9		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813529	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.369		mg/kg dry	0.369	0.292	1	SW846 9012B	11-Oct-18	12-Oct-18	RLT	1813598	
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Sample Identification

CDW-S23B

SC50960-16

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 11:35

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 2.03		mg/kg dry	2.03	0.219	1	SW846 6010C	11-Oct-18	13-Oct-18	SC/EDT	1813554	
7440-38-2	Arsenic	6.02		mg/kg dry	2.03	0.257	1	"	"	"	"	"	
7440-39-3	Barium	496		mg/kg dry	1.35	0.159	1	"	"	14-Oct-18	"	"	
7440-43-9	Cadmium	< 0.676		mg/kg dry	0.676	0.0350	1	"	"	13-Oct-18	"	"	
7440-47-3	Chromium	4.95		mg/kg dry	1.35	0.180	1	"	"	"	"	"	
7439-97-6	Mercury	0.395		mg/kg dry	0.0372	0.0103	1	SW846 7471B	"	12-Oct-18	ABW	1813555	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	770		mg/kg dry	2.03	0.287	1	SW846 6010C	"	13-Oct-18	SC/EDT	1813554	
7440-36-0	Antimony	< 6.76		mg/kg dry	6.76	0.508	1	"	"	"	"	"	
7782-49-2	Selenium	< 2.03		mg/kg dry	2.03	0.387	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	72.9		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813529	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.347		mg/kg dry	0.347	0.274	1	SW846 9012B	11-Oct-18	12-Oct-18	RLT	1813598	

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW846 6010C</u>										
Batch 1813554 - SW846 3051A										
<u>Blank (1813554-BLK1)</u>					<u>Prepared: 11-Oct-18 Analyzed: 13-Oct-18</u>					
Silver	< 1.38		mg/kg wet	1.38						
Arsenic	< 1.38		mg/kg wet	1.38						
Cadmium	< 0.459		mg/kg wet	0.459						
Chromium	< 0.917		mg/kg wet	0.917						
Lead	< 1.38		mg/kg wet	1.38						
Antimony	< 4.59		mg/kg wet	4.59						
Selenium	< 1.38		mg/kg wet	1.38						
Barium	< 0.917		mg/kg wet	0.917						
<u>Duplicate (1813554-DUP1)</u>					<u>Source: SC50960-01</u>		<u>Prepared: 11-Oct-18 Analyzed: 13-Oct-18</u>			
Arsenic	52.9	QR8	mg/kg dry	4.39		69.2			27	20
Selenium	4.11	J	mg/kg dry	4.39		4.23			3	20
Antimony	47.6		mg/kg dry	14.6		57.2			18	20
Lead	4860		mg/kg dry	4.39		5140			6	20
Cadmium	31.2		mg/kg dry	1.46		32.5			4	20
Silver	0.512	J	mg/kg dry	4.39		0.562			9	20
Chromium	17.2		mg/kg dry	2.93		19.7			14	20
Barium	1680	QR9	mg/kg dry	2.93		2230			28	20
<u>Matrix Spike (1813554-MS1)</u>					<u>Source: SC50960-01</u>		<u>Prepared: 11-Oct-18 Analyzed: 13-Oct-18</u>			
Selenium	339		mg/kg dry	4.57	381	4.23	88	75-125		
Arsenic	380		mg/kg dry	4.57	381	69.2	82	75-125		
Cadmium	353		mg/kg dry	1.52	381	32.5	84	75-125		
Chromium	348		mg/kg dry	3.05	381	19.7	86	75-125		
Lead	5910	QM2	mg/kg dry	4.57	381	5140	202	75-125		
Antimony	368		mg/kg dry	15.2	381	57.2	82	75-125		
Silver	311		mg/kg dry	4.57	381	0.562	81	75-125		
Barium	2520		mg/kg dry	3.05	381	2230	75	75-125		
<u>Matrix Spike Dup (1813554-MSD1)</u>					<u>Source: SC50960-01</u>		<u>Prepared: 11-Oct-18 Analyzed: 13-Oct-18</u>			
Arsenic	366		mg/kg dry	4.77	398	69.2	75	75-125	4	20
Cadmium	356		mg/kg dry	1.59	398	32.5	81	75-125	0.9	20
Chromium	361		mg/kg dry	3.18	398	19.7	86	75-125	3	20
Lead	5750	QM2	mg/kg dry	4.77	398	5140	154	75-125	3	20
Antimony	365		mg/kg dry	15.9	398	57.2	77	75-125	0.9	20
Selenium	345		mg/kg dry	4.77	398	4.23	86	75-125	2	20
Silver	322		mg/kg dry	4.77	398	0.562	81	75-125	4	20
Barium	1930	QM4X, QR9	mg/kg dry	3.18	398	2230	-77	75-125	27	20
<u>Post Spike (1813554-PS1)</u>					<u>Source: SC50960-01</u>		<u>Prepared: 11-Oct-18 Analyzed: 13-Oct-18</u>			
Selenium	339		mg/kg dry	4.43	370	4.23	90	80-120		
Arsenic	386		mg/kg dry	4.43	370	69.2	86	80-120		
Cadmium	344		mg/kg dry	1.48	370	32.5	84	80-120		
Chromium	341		mg/kg dry	2.96	370	19.7	87	80-120		
Lead	5030	QM2	mg/kg dry	4.43	370	5140	-30	80-120		
Antimony	371		mg/kg dry	14.8	370	57.2	85	80-120		
Barium	2400	QM4X	mg/kg dry	2.96	370	2230	47	80-120		
<u>Reference (1813554-SRM1)</u>					<u>Prepared: 11-Oct-18 Analyzed: 14-Oct-18</u>					
Lead	47.9		mg/kg wet	1.50	56.0		86	83-117.1		
Chromium	58.3		mg/kg wet	1.00	68.6		85	82.4-117.6		
Cadmium	91.8		mg/kg wet	0.500	106		86	83.4-116.6		

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Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW846 6010C</u>										
Batch 1813554 - SW846 3051A										
<u>Reference (1813554-SRM1)</u>	<u>Prepared: 11-Oct-18 Analyzed: 14-Oct-18</u>									
Arsenic	69.8		mg/kg wet	1.50	81.2		86	83.2-116.8		
Silver	18.7		mg/kg wet	1.50	21.8		85	79.9-119.9		
Selenium	80.6		mg/kg wet	1.50	96.3		84	79.6-120.9		
Antimony	49.5		mg/kg wet	5.00	38.1		130	25-196		
Barium	115		mg/kg wet	1.00	131		88	82.7-117.3		
<u>Reference (1813554-SRM2)</u>	<u>Prepared: 11-Oct-18 Analyzed: 14-Oct-18</u>									
Cadmium	88.3	QM9	mg/kg wet	0.500	107		82	83.4-116.6		
Arsenic	67.6	QM9	mg/kg wet	1.50	81.7		83	83.2-116.8		
Chromium	56.2	QM9	mg/kg wet	1.00	69.0		81	82.4-117.6		
Lead	46.7		mg/kg wet	1.50	56.3		83	83-117.1		
Selenium	75.8	QM9	mg/kg wet	1.50	96.9		78	79.6-120.9		
Antimony	46.8		mg/kg wet	5.00	38.3		122	25-196		
Silver	17.7		mg/kg wet	1.50	22.0		81	79.9-119.9		
Barium	109	QM9	mg/kg wet	1.00	132		82	82.7-117.3		
<u>SW846 7471B</u>										
Batch 1813555 - EPA200/SW7000 Series										
<u>Blank (1813555-BLK1)</u>	<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>									
Mercury	< 0.0295		mg/kg wet	0.0295						
<u>Duplicate (1813555-DUP1)</u>	<u>Source: SC50960-01 Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>									
Mercury	6.63	D	mg/kg dry	0.434		6.04			9	20
<u>Matrix Spike (1813555-MS1)</u>	<u>Source: SC50960-01 Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>									
Mercury	6.76	QM2, D	mg/kg dry	0.410	0.569	6.04	126	75-125		
<u>Matrix Spike Dup (1813555-MSD1)</u>	<u>Source: SC50960-01 Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>									
Mercury	5.75	QM2, D	mg/kg dry	0.455	0.632	6.04	-46	75-125	16	20
<u>Post Spike (1813555-PS1)</u>	<u>Source: SC50960-01 Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>									
Mercury	9.77	D	mg/kg dry	0.463	3.22	6.04	116	80-120		
<u>Reference (1813555-SRM1)</u>	<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>									
Mercury	4.80	D	mg/kg wet	0.600	3.98		121	71.6-128		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 9012B										
Batch 1813535 - General Preparation										
<u>Blank (1813535-BLK1)</u>										<u>Prepared: 10-Oct-18 Analyzed: 12-Oct-18</u>
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>Blank (1813535-BLK2)</u>										<u>Prepared: 10-Oct-18 Analyzed: 12-Oct-18</u>
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>LCS (1813535-BS1)</u>										<u>Prepared: 10-Oct-18 Analyzed: 12-Oct-18</u>
Cyanide (total)	23.1		mg/kg wet	0.500	25.0		92	90-110		
<u>LCS (1813535-BS2)</u>										<u>Prepared: 10-Oct-18 Analyzed: 12-Oct-18</u>
Cyanide (total)	23.6		mg/kg wet	0.500	25.0		94	90-110		
<u>Calibration Blank (1813535-CCB1)</u>										<u>Prepared: 10-Oct-18 Analyzed: 12-Oct-18</u>
Cyanide (total)	0.000167		mg/kg wet							
<u>Calibration Blank (1813535-CCB2)</u>										<u>Prepared: 10-Oct-18 Analyzed: 12-Oct-18</u>
Cyanide (total)	-0.0000271		mg/kg wet							
<u>Calibration Blank (1813535-CCB3)</u>										<u>Prepared: 10-Oct-18 Analyzed: 12-Oct-18</u>
Cyanide (total)	0.0000227		mg/kg wet							
<u>Calibration Check (1813535-CCV1)</u>										<u>Prepared: 10-Oct-18 Analyzed: 12-Oct-18</u>
Cyanide (total)	25.3		mg/kg wet	0.500	25.0		101	90-110		
<u>Calibration Check (1813535-CCV2)</u>										<u>Prepared: 10-Oct-18 Analyzed: 12-Oct-18</u>
Cyanide (total)	25.1		mg/kg wet	0.500	25.0		100	90-110		
<u>Calibration Check (1813535-CCV3)</u>										<u>Prepared: 10-Oct-18 Analyzed: 12-Oct-18</u>
Cyanide (total)	25.3		mg/kg wet	0.500	25.0		101	90-110		
<u>Duplicate (1813535-DUP1)</u>										<u>Source: SC50960-08 Prepared: 10-Oct-18 Analyzed: 12-Oct-18</u>
Cyanide (total)	< 1.84		mg/kg dry	1.84		BRL				35
<u>Matrix Spike (1813535-MS1)</u>										<u>Source: SC50960-08 Prepared: 10-Oct-18 Analyzed: 12-Oct-18</u>
Cyanide (total)	83.6		mg/kg dry	1.79	89.3	BRL	94	90-110		
<u>Matrix Spike Dup (1813535-MSD1)</u>										<u>Source: SC50960-08 Prepared: 10-Oct-18 Analyzed: 12-Oct-18</u>
Cyanide (total)	83.8		mg/kg dry	1.79	89.5	BRL	94	90-110	0.2	35
<u>Reference (1813535-SRM1)</u>										<u>Prepared: 10-Oct-18 Analyzed: 12-Oct-18</u>
Cyanide (total)	73.2		mg/kg wet	1.53	94.3		78	22.3-116		
Batch 1813598 - General Preparation										
<u>Blank (1813598-BLK1)</u>										<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>Blank (1813598-BLK2)</u>										<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>LCS (1813598-BS1)</u>										<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>
Cyanide (total)	23.6		mg/kg wet	0.500	25.0		94	90-110		
<u>LCS (1813598-BS2)</u>										<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>
Cyanide (total)	24.3		mg/kg wet	0.500	25.0		97	90-110		
<u>Calibration Blank (1813598-CCB1)</u>										<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>
Cyanide (total)	0.0000227		mg/kg wet							
<u>Calibration Blank (1813598-CCB2)</u>										<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>
Cyanide (total)	0.000181		mg/kg wet							
<u>Calibration Blank (1813598-CCB3)</u>										<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>
Cyanide (total)	0.0000761		mg/kg wet							
<u>Calibration Check (1813598-CCV1)</u>										<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>
Cyanide (total)	25.3		mg/kg wet	0.500	25.0		101	90-110		
<u>Calibration Check (1813598-CCV2)</u>										<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>
Cyanide (total)	25.4		mg/kg wet	0.500	25.0		102	90-110		
<u>Calibration Check (1813598-CCV3)</u>										<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>
Cyanide (total)	25.0		mg/kg wet	0.500	25.0		100	90-110		

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General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW846 9012B</u>										
Batch 1813598 - General Preparation										
<u>Duplicate (1813598-DUP1)</u>			<u>Source: SC50960-12</u>			<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>				
Cyanide (total)	< 1.33		mg/kg dry	1.33		BRL				35
<u>Matrix Spike (1813598-MS1)</u>			<u>Source: SC50960-12</u>			<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>				
Cyanide (total)	64.8		mg/kg dry	1.39	69.3	BRL	94	90-110		
<u>Matrix Spike Dup (1813598-MSD1)</u>			<u>Source: SC50960-12</u>			<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>				
Cyanide (total)	63.4		mg/kg dry	1.33	66.6	BRL	95	90-110	2	35
<u>Reference (1813598-SRM1)</u>						<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>				
Cyanide (total)	69.0		mg/kg wet	1.64	94.3		73	22.3-116		

Notes and Definitions

D	Data reported from a dilution
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
QM2	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
QM4X	The spike recovery was outside of QC acceptance limits for the MS, MSD and/or PS due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
QR8	Analyses are not controlled on RPD values from sample concentrations that are less than 5 times the reporting level. The batch is accepted based upon the difference between the sample and duplicate is less than or equal to the reporting limit.
QR9	RPD out of acceptance range. The batch is accepted based upon LCS and/or LCSD recovery.
R01	The Reporting Limit has been raised to account for matrix interference.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.



Spectrum Analytical

CHAIN OF CUSTODY RECORD

Page 2 of 2

850966 By

Special Handling:

- ☐ Standard TAT - 7 to 10 business days
- ☒ Rush TAT - Date Needed: 10/15/10

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: CDU Consultants

Invoice To: CDU Consultants

Project No: 1515.20

Telephone #: 508 875 2651

Site Name: Lehigh Drive

Location: Bedford State: MA

Project Mgr: Gie Calabrese

Quote #:

Sampler(s): Sarah Cole

P=Field Filtered 1-N₂S₂O₅ 2-HCl 3-H₂SO₄ 4-HNO₃ 5-NaOH 6-Ascorbic Acid
7-CH₃OH 8-NaHSO₄ 9-Deionized Water 10-El₃PO₄ 11-A₂C 12-

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water

O=Oil SO=Soil SL=Sludge A=Indoor Ambient Air SG=Soil Gas

X1= X2= X3=

G=Grab

C=Composite

Lab ID:	Sample ID:	Date:	Time:	Type:	Matrix:
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850966-4	CDU-521B	10/9/10	11:02	C	SO
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12	CDU-521B-D4	10/9/10	11:02	C	SO
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13	CDU-522A	10/9/10	11:04	C	SO
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14	CDU-522B	10/9/10	11:05	C	SO
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15	CDU-523A	10/9/10	11:30	C	SO
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16	CDU-523B	10/9/10	11:35	C	SO
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of VOA Vials
of Amber Glass
of Clear Glass
of Plastic

REPT: Ammony Cyanide

Fast Preservative Code below:

Analysis

Check if chlorinated

QA/QC Reporting Notes:
* additional charges may apply

MA DEP MCP (LAMI Report) ☒ Yes ☐ No
C/DPH RCT Report? ☐ Yes ☐ No

Standard ☐ No QC

POA* ☐ RSP A* ☐ RSP B*

NI Reduced* ☐ NI Full* ☐ Per IV*

Other: ☐ State-specific reporting standards.

Requisitioned by:

Received by:

Time:

Temp °C

EDD format

E-mail to:

Scholar@3Cruceauvibana.com

Consistent upon receipt

Custody Seals:

☐ Present ☐ Intact ☐ Broken

☐ Ambient ☐ Iced

☒ Refrigerated

☐ VOA Frozen

☐ Soil for P/ro/en



Spectrum Analytical

CHAIN OF CUSTODY RECORD

Page 2 of 2

Special Handling:

☐ Standard TAT - 7 to 10 business days☒ Rush TAT - Date Needed: 10/15/12

All TAT's subject to laboratory approval
Mn: 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To:

CDO Consultants

Invoice To:

CDO Consultants

Project No:

1515.20

Site Name:

BPA use & perfum site

Location:

Bucklin

State: MA

Telephone #:

508 875 3657

P.O. No.:

CDO Consultants

Sample(s):

Bucklin

F=Field Filtered 1-Na₂SO₄ 2-HCl 3-H₂SO₄ 4-HNO₃ 5-NaOH 6-Ascorbic Acid
7=Cl₂SOH 8-NaHSO₄ 9-Deionized Water 10-H₂PO₄

11= Apc

12=

LIM Preservative Code below:

QA/QC Reporting Notes:

* additional changes may apply

DM-Drinking Water

GW-Groundwater

SW-Surface Water

WW-Waste Water

O-Oil

SO-Soil

SL=Sludge

A-Indoor/Ambient Air

SG-Soil Gas

X1=

X2=

X3=

G=Grab

C-Composite

Lab ID:

Sample ID:

Date:

Time:

Type

Matrix

of VOA Vials

of Amber Glass

of Clear Glass

of Plastic

Containers

Analysis

Check if chlorinated

Other: State specific reporting standards

X50960-4

CDO-5213

10/9/12

11/2

C

SO

1

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

12 CDO-5215-D4

10/9/12

11/2

C

SO

1

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

13 CDO-523A

10/9/12

11/2

C

SO

1

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

14 CDO-523B

10/9/12

11/2

C

SO

1

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

15 CDO-523A

10/9/12

11/2

C

SO

1

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

16 CDO-523B

10/9/12

11/2

C

SO

1

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

Relinquished by:

Received by:

Time:

Temp °C

EHD format:

E-mail to:

Seahala@eurofins.com

Conductivity:

3.2

Conductivity:

10.5

Conductivity:

15.20

Batch Summary

1813524

General Chemistry Parameters

SC50960-01 (CDW-S16A)
SC50960-02 (CDW-S16B)
SC50960-03 (CDW-S17A)
SC50960-04 (CDW-S17B)
SC50960-05 (CDW-S18A)
SC50960-06 (CDW-S18B)
SC50960-07 (CDW-S19)
SC50960-08 (CDW-S20A)
SC50960-09 (CDW-S20B)
SC50960-10 (CDW-S21A)
SC50960-11 (CDW-S21B)
SC50960-12 (CDW-S21B-Dup)
SC50960-13 (CDW-S22A)
SC50960-14 (CDW-S22B)

1813529

General Chemistry Parameters

SC50960-15 (CDW-S23A)
SC50960-16 (CDW-S23B)

1813535

General Chemistry Parameters

1813535-BLK1
1813535-BLK2
1813535-BS1
1813535-BS2
1813535-CCB1
1813535-CCB2
1813535-CCB3
1813535-CCV1
1813535-CCV2
1813535-CCV3
1813535-DUP1
1813535-MS1
1813535-MSD1
1813535-SRM1
SC50960-01 (CDW-S16A)
SC50960-02 (CDW-S16B)
SC50960-03 (CDW-S17A)
SC50960-04 (CDW-S17B)
SC50960-05 (CDW-S18A)
SC50960-06 (CDW-S18B)
SC50960-07 (CDW-S19)
SC50960-08 (CDW-S20A)
SC50960-09 (CDW-S20B)

1813554

Total Metals by EPA 6000/7000 Series Methods

1813554-BLK1
1813554-DUP1

1813554-MS1
1813554-MSD1
1813554-PS1
1813554-SRM1
1813554-SRM2
SC50960-01 (CDW-S16A)
SC50960-02 (CDW-S16B)
SC50960-03 (CDW-S17A)
SC50960-04 (CDW-S17B)
SC50960-05 (CDW-S18A)
SC50960-06 (CDW-S18B)
SC50960-07 (CDW-S19)
SC50960-08 (CDW-S20A)
SC50960-09 (CDW-S20B)
SC50960-10 (CDW-S21A)
SC50960-11 (CDW-S21B)
SC50960-12 (CDW-S21B-Dup)
SC50960-13 (CDW-S22A)
SC50960-14 (CDW-S22B)
SC50960-15 (CDW-S23A)
SC50960-16 (CDW-S23B)

1813555

Total Metals by EPA 6000/7000 Series Methods

1813555-BLK1
1813555-DUP1
1813555-MS1
1813555-MSD1
1813555-PS1
1813555-SRM1
SC50960-01 (CDW-S16A)
SC50960-02 (CDW-S16B)
SC50960-03 (CDW-S17A)
SC50960-04 (CDW-S17B)
SC50960-05 (CDW-S18A)
SC50960-06 (CDW-S18B)
SC50960-07 (CDW-S19)
SC50960-08 (CDW-S20A)
SC50960-09 (CDW-S20B)
SC50960-10 (CDW-S21A)
SC50960-11 (CDW-S21B)
SC50960-12 (CDW-S21B-Dup)
SC50960-13 (CDW-S22A)
SC50960-14 (CDW-S22B)
SC50960-15 (CDW-S23A)
SC50960-16 (CDW-S23B)

1813598**General Chemistry Parameters**

1813598-BLK1

1813598-BLK2

1813598-BS1

1813598-BS2

1813598-CCB1

1813598-CCB2

1813598-CCB3

1813598-CCV1

1813598-CCV2

1813598-CCV3

1813598-DUP1

1813598-MS1

1813598-MSD1

1813598-SRM1

SC50960-10 (CDW-S21A)

SC50960-11 (CDW-S21B)

SC50960-12 (CDW-S21B-Dup)

SC50960-13 (CDW-S22A)

SC50960-14 (CDW-S22B)

SC50960-15 (CDW-S23A)

SC50960-16 (CDW-S23B)

Report Date:
15-Oct-18 12:45

Laboratory Report SC50962

CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760
Attn: Susan Cahalan-Roach

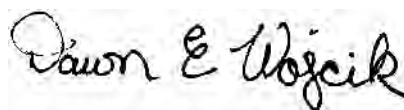
Project: BTAT LLC Superfund Site - Franklin, MA
Project #: 1515.20

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393



Authorized by:
Dawn Wojcik
Laboratory Director



Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.

Please note that this report contains 34 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our Quality web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

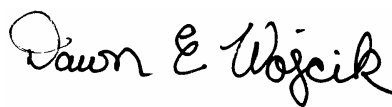
Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC50962
Project: BTAT LLC Superfund Site - Franklin, MA
Project Number: 1515.20

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SC50962-01	CDW-S24A	Soil	09-Oct-18 11:40	10-Oct-18 15:25
SC50962-02	CDW-S24B	Soil	09-Oct-18 11:42	10-Oct-18 15:25
SC50962-03	CDW-S25A	Soil	09-Oct-18 11:56	10-Oct-18 15:25
SC50962-04	CDW-S25B	Soil	09-Oct-18 11:58	10-Oct-18 15:25
SC50962-05	CDW-S26A	Soil	09-Oct-18 12:04	10-Oct-18 15:25
SC50962-06	CDW-S26B	Soil	09-Oct-18 12:07	10-Oct-18 15:25
SC50962-07	CDW-S27A	Soil	09-Oct-18 12:13	10-Oct-18 15:25
SC50962-08	CDW-S27B	Soil	09-Oct-18 12:14	10-Oct-18 15:25
SC50962-09	CDW-S28A	Soil	09-Oct-18 12:20	10-Oct-18 15:25
SC50962-10	CDW-S28B	Soil	09-Oct-18 12:22	10-Oct-18 15:25
SC50962-11	CDW-S29A	Soil	09-Oct-18 12:28	10-Oct-18 15:25
SC50962-12	CDW-S29B	Soil	09-Oct-18 12:29	10-Oct-18 15:25
SC50962-13	CDW-S30	Soil	09-Oct-18 12:35	10-Oct-18 15:25
SC50962-14	CDW-S31	Soil	09-Oct-18 12:38	10-Oct-18 15:25
SC50962-15	CDW-S26B Dup	Soil	09-Oct-18 12:07	10-Oct-18 15:25

MassDEP Analytical Protocol Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.			Project #: 1515.20		
Project Location: BTAT LLC Superfund Site - Franklin, MA			RTN:		
This form provides certifications for the following data set:			SC50962-01 through SC50962-15		
Matrices: Soil					
CAM Protocol					
8260 VOC CAM II A	✓ 7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
✓ 6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	✓ 9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B
<i>Affirmative responses to questions A through F are required for Presumptive Certainty's status</i>					
A	Were all samples received in a condition consistent with those described on the Chain of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?				✓ Yes No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?				✓ Yes No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?				✓ Yes No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?				✓ Yes No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?				Yes No Yes No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to questions A through E)?				✓ Yes No
<i>Responses to questions G, H and I below are required for Presumptive Certainty's status</i>					
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?				Yes ✓ No
Data User Note: Data that achieve Presumptive Certainty's status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.					
H	Were all QC performance standards specified in the CAM protocol(s) achieved?				Yes ✓ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?				Yes ✓ No
<i>All negative responses are addressed in a case narrative on the cover page of this report.</i>					
<p><i>I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.</i></p> <div style="text-align: right; margin-top: 20px;">  Dawn E. Wojcik Laboratory Director Date: 10/15/2018 </div>					

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 3.2 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 6010C

Laboratory Control Samples:

1813532 SRM/SRMD

Arsenic percent recoveries (87/78) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

CDW-S24A
CDW-S24B
CDW-S25A
CDW-S25B
CDW-S26A
CDW-S26B
CDW-S26B Dup
CDW-S27A
CDW-S27B
CDW-S28A
CDW-S28B
CDW-S29A
CDW-S29B
CDW-S30
CDW-S31

Laboratory Control Samples:

1813532 SRM/SRMD

Barium percent recoveries (85/75) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

CDW-S24A
CDW-S24B
CDW-S25A
CDW-S25B
CDW-S26A
CDW-S26B
CDW-S26B Dup
CDW-S27A
CDW-S27B
CDW-S28A
CDW-S28B
CDW-S29A
CDW-S29B
CDW-S30
CDW-S31

Cadmium percent recoveries (88/80) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

CDW-S24A
CDW-S24B
CDW-S25A
CDW-S25B
CDW-S26A
CDW-S26B
CDW-S26B Dup
CDW-S27A
CDW-S27B
CDW-S28A
CDW-S28B
CDW-S29A
CDW-S29B
CDW-S30
CDW-S31

Chromium percent recoveries (88/78) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

CDW-S24A
CDW-S24B
CDW-S25A
CDW-S25B
CDW-S26A
CDW-S26B
CDW-S26B Dup
CDW-S27A
CDW-S27B
CDW-S28A
CDW-S28B
CDW-S29A
CDW-S29B
CDW-S30
CDW-S31

SW846 6010C

Laboratory Control Samples:

1813532 SRM/SRMD

Lead percent recoveries (86/77) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

CDW-S24A
CDW-S24B
CDW-S25A
CDW-S25B
CDW-S26A
CDW-S26B
CDW-S26B Dup
CDW-S27A
CDW-S27B
CDW-S28A
CDW-S28B
CDW-S29A
CDW-S29B
CDW-S30
CDW-S31

Selenium percent recoveries (89/79) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

CDW-S24A
CDW-S24B
CDW-S25A
CDW-S25B
CDW-S26A
CDW-S26B
CDW-S26B Dup
CDW-S27A
CDW-S27B
CDW-S28A
CDW-S28B
CDW-S29A
CDW-S29B
CDW-S30
CDW-S31

Silver percent recoveries (80/71) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

CDW-S24A
CDW-S24B
CDW-S25A
CDW-S25B
CDW-S26A
CDW-S26B
CDW-S26B Dup
CDW-S27A
CDW-S27B
CDW-S28A
CDW-S28B
CDW-S29A
CDW-S29B
CDW-S30
CDW-S31

Spikes:

SW846 6010C

Spikes:

1813532-MS1 *Source: SC50962-01*

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Lead

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Barium

1813532-MSD1 *Source: SC50962-01*

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Lead

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Barium

Silver

1813532-PS1 *Source: SC50962-01*

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Lead

Duplicates:

1813532-DUP1 *Source: SC50962-01*

Analyses are not controlled on RPD values from sample concentrations that are less than 5 times the reporting level. The batch is accepted based upon the difference between the sample and duplicate is less than or equal to the reporting limit.

Antimony

Cadmium

The RPD exceeded the QC control limits; however precision is demonstrated with acceptable RPD values for MS/MSD.

Lead

SW846 7471B

Spikes:

1813533-MS1 *Source: SC50962-01*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Mercury

1813533-MSD1 *Source: SC50962-01*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SW846 7471B

Spikes:

1813533-MSD1 *Source: SC50962-01*

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Mercury

1813533-PS1 *Source: SC50962-01*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Mercury

Duplicates:

1813533-DUP1 *Source: SC50962-01*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

Samples:

SC50962-01 *CDW-S24A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50962-02 *CDW-S24B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50962-03 *CDW-S25A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50962-04 *CDW-S25B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50962-05 *CDW-S26A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50962-06 *CDW-S26B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50962-07 *CDW-S27A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50962-08 *CDW-S27B*

SW846 7471B**Samples:**

SC50962-08 *CDW-S27B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50962-09 *CDW-S28A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50962-10 *CDW-S28B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50962-11 *CDW-S29A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50962-12 *CDW-S29B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50962-13 *CDW-S30*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC50962-15 *CDW-S26B Dup*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

Sample Acceptance Check Form

Client: CDW Consultants, Inc.
Project: BTAT LLC Superfund Site - Franklin, MA / 1515.20
Work Order: SC50962
Sample(s) received on: 10/10/2018

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Were custody seals present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were custody seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Were samples received at a temperature of $\leq 6^{\circ}\text{C}$?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples refrigerated upon transfer to laboratory representative?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were sample containers received intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples accompanied by a Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did sample container labels agree with Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples received within method-specific holding times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Summary of Hits

Lab ID: SC50962-01

Client ID: CDW-S24A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	6.67		5.90	mg/kg	SW846 6010C
Arsenic	8.28		1.77	mg/kg	SW846 6010C
Barium	451		1.18	mg/kg	SW846 6010C
Chromium	6.87		1.18	mg/kg	SW846 6010C
Lead	3040		1.77	mg/kg	SW846 6010C
Mercury	2.42	GS1, D0.339		mg/kg	SW846 7471B

Lab ID: SC50962-02

Client ID: CDW-S24B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	5.40		1.75	mg/kg	SW846 6010C
Barium	484		1.17	mg/kg	SW846 6010C
Chromium	5.87		1.17	mg/kg	SW846 6010C
Lead	1020		1.75	mg/kg	SW846 6010C
Mercury	3.85	GS1, D0.342		mg/kg	SW846 7471B

Lab ID: SC50962-03

Client ID: CDW-S25A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	9.14		1.91	mg/kg	SW846 6010C
Barium	660		1.27	mg/kg	SW846 6010C
Cadmium	0.896		0.636	mg/kg	SW846 6010C
Chromium	7.01		1.27	mg/kg	SW846 6010C
Lead	1740		1.91	mg/kg	SW846 6010C
Mercury	3.28	GS1, D0.356		mg/kg	SW846 7471B

Lab ID: SC50962-04

Client ID: CDW-S25B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	8.94		2.02	mg/kg	SW846 6010C
Barium	750		1.34	mg/kg	SW846 6010C
Cadmium	0.810		0.672	mg/kg	SW846 6010C
Chromium	7.78		1.34	mg/kg	SW846 6010C
Lead	1160		2.02	mg/kg	SW846 6010C
Mercury	2.90	GS1, D0.404		mg/kg	SW846 7471B
Cyanide (total)	0.494		0.386	mg/kg	SW846 9012B

Lab ID: SC50962-05

Client ID: CDW-S26A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	10.3		1.77	mg/kg	SW846 6010C
Barium	756		1.18	mg/kg	SW846 6010C
Chromium	4.83		1.18	mg/kg	SW846 6010C
Lead	1140		1.77	mg/kg	SW846 6010C
Mercury	2.68	GS1, D0.320		mg/kg	SW846 7471B

Lab ID: SC50962-06**Client ID:** CDW-S26B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	10.1		1.75	mg/kg	SW846 6010C
Barium	648		1.17	mg/kg	SW846 6010C
Chromium	3.41		1.17	mg/kg	SW846 6010C
Lead	484		1.75	mg/kg	SW846 6010C
Mercury	0.968	GS1, D0.188		mg/kg	SW846 7471B

Lab ID: SC50962-07**Client ID:** CDW-S27A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	8.65		1.74	mg/kg	SW846 6010C
Barium	856		1.16	mg/kg	SW846 6010C
Cadmium	0.669		0.582	mg/kg	SW846 6010C
Chromium	3.65		1.16	mg/kg	SW846 6010C
Lead	954		1.74	mg/kg	SW846 6010C
Mercury	3.18	GS1, D0.334		mg/kg	SW846 7471B

Lab ID: SC50962-08**Client ID:** CDW-S27B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	40.1		6.34	mg/kg	SW846 6010C
Arsenic	21.1		1.90	mg/kg	SW846 6010C
Barium	1980		1.27	mg/kg	SW846 6010C
Cadmium	2.33		0.634	mg/kg	SW846 6010C
Chromium	8.06		1.27	mg/kg	SW846 6010C
Lead	2490		1.90	mg/kg	SW846 6010C
Mercury	3.02	GS1, D0.348		mg/kg	SW846 7471B
Cyanide (total)	6.94		0.362	mg/kg	SW846 9012B

Lab ID: SC50962-09**Client ID:** CDW-S28A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	10.5		1.78	mg/kg	SW846 6010C
Barium	603		1.19	mg/kg	SW846 6010C
Chromium	6.11		1.19	mg/kg	SW846 6010C
Lead	597		1.78	mg/kg	SW846 6010C
Mercury	1.77	GS1, D0.176		mg/kg	SW846 7471B

Lab ID: SC50962-10**Client ID:** CDW-S28B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	7.75		5.93	mg/kg	SW846 6010C
Arsenic	11.1		1.78	mg/kg	SW846 6010C
Barium	559		1.19	mg/kg	SW846 6010C
Chromium	5.57		1.19	mg/kg	SW846 6010C
Lead	646		1.78	mg/kg	SW846 6010C
Mercury	2.73	GS1, D0.348		mg/kg	SW846 7471B

Lab ID: SC50962-11**Client ID:** CDW-S29A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	8.02		6.51	mg/kg	SW846 6010C
Arsenic	11.6		1.95	mg/kg	SW846 6010C
Barium	877		1.30	mg/kg	SW846 6010C
Cadmium	1.07		0.651	mg/kg	SW846 6010C
Chromium	7.56		1.30	mg/kg	SW846 6010C
Lead	1140		1.95	mg/kg	SW846 6010C
Mercury	2.11	GS1, D0.384		mg/kg	SW846 7471B

Lab ID: SC50962-12**Client ID:** CDW-S29B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	10.3		5.56	mg/kg	SW846 6010C
Arsenic	15.3		1.67	mg/kg	SW846 6010C
Barium	599		1.11	mg/kg	SW846 6010C
Cadmium	0.787		0.556	mg/kg	SW846 6010C
Chromium	7.34		1.11	mg/kg	SW846 6010C
Lead	929		1.67	mg/kg	SW846 6010C
Mercury	1.65	GS1, D0.175		mg/kg	SW846 7471B
Cyanide (total)	0.453		0.333	mg/kg	SW846 9012B

Lab ID: SC50962-13**Client ID:** CDW-S30

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	17.0		7.77	mg/kg	SW846 6010C
Arsenic	17.1		2.33	mg/kg	SW846 6010C
Barium	921		1.55	mg/kg	SW846 6010C
Chromium	7.11		1.55	mg/kg	SW846 6010C
Lead	2680		2.33	mg/kg	SW846 6010C
Mercury	4.61	GS1, D0.458		mg/kg	SW846 7471B

Lab ID: SC50962-14**Client ID:** CDW-S31

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	6.40		1.93	mg/kg	SW846 6010C
Barium	147		1.29	mg/kg	SW846 6010C
Chromium	5.54		1.29	mg/kg	SW846 6010C
Lead	403		1.93	mg/kg	SW846 6010C
Mercury	0.0957		0.0377	mg/kg	SW846 7471B

Lab ID: SC50962-15**Client ID:** CDW-S26B Dup

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	19.5		1.80	mg/kg	SW846 6010C
Barium	651		1.20	mg/kg	SW846 6010C
Chromium	3.74		1.20	mg/kg	SW846 6010C
Lead	1470		1.80	mg/kg	SW846 6010C
Mercury	0.959	GS1, D0.184		mg/kg	SW846 7471B

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses , this summary does not include hits from these analyses if included in this work order .

Sample Identification

CDW-S24A

SC50962-01

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 11:40

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.77		mg/kg dry	1.77	0.191	1	SW846 6010C	11-Oct-18	12-Oct-18	EDT	1813532	
7440-38-2	Arsenic	8.28		mg/kg dry	1.77	0.224	1	"	"	"	"	"	
7440-39-3	Barium	451		mg/kg dry	1.18	0.139	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.590		mg/kg dry	0.590	0.0306	1	"	"	"	"	"	
7440-47-3	Chromium	6.87		mg/kg dry	1.18	0.157	1	"	"	"	"	"	
7439-97-6	Mercury	2.42	GS1, D	mg/kg dry	0.339	0.0941	10	SW846 7471B	"	12-Oct-18	ABW	1813533	

Prepared by method SW846 3051A

7439-92-1	Lead	3,040		mg/kg dry	1.77	0.250	1	SW846 6010C	"	12-Oct-18	EDT	1813532	
7440-36-0	Antimony	6.67		mg/kg dry	5.90	0.444	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.77		mg/kg dry	1.77	0.337	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	84.1			%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813529	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.311		mg/kg dry	0.311	0.245	1	SW846 9012B	10-Oct-18	12-Oct-18	RLT	1813534	
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Sample Identification

CDW-S24B

SC50962-02

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 11:42

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 1.75		mg/kg dry	1.75	0.189	1	SW846 6010C	11-Oct-18	12-Oct-18	EDT	1813532	
7440-38-2	Arsenic	5.40		mg/kg dry	1.75	0.222	1	"	"	12-Oct-18	"	"	
7440-39-3	Barium	484		mg/kg dry	1.17	0.138	1	"	"	12-Oct-18	"	"	
7440-43-9	Cadmium	< 0.585		mg/kg dry	0.585	0.0303	1	"	"	"	"	"	
7440-47-3	Chromium	5.87		mg/kg dry	1.17	0.156	1	"	"	"	"	"	
7439-97-6	Mercury	3.85	GS1, D	mg/kg dry	0.342	0.0951	10	SW846 7471B	"	12-Oct-18	ABW	1813533	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	1,020		mg/kg dry	1.75	0.248	1	SW846 6010C	"	12-Oct-18	EDT	1813532	
7440-36-0	Antimony	< 5.85		mg/kg dry	5.85	0.440	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.75		mg/kg dry	1.75	0.334	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	79.0		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813529	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.357		mg/kg dry	0.357	0.282	1	SW846 9012B	10-Oct-18	12-Oct-18	RLT	1813534	

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Sample Identification

CDW-S25A

SC50962-03

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 11:56

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.91		mg/kg dry	1.91	0.206	1	SW846 6010C	11-Oct-18	12-Oct-18	EDT	1813532	
7440-38-2	Arsenic	9.14		mg/kg dry	1.91	0.242	1	"	"	12-Oct-18	"	"	
7440-39-3	Barium	660		mg/kg dry	1.27	0.150	1	"	"	12-Oct-18	"	"	
7440-43-9	Cadmium	0.896		mg/kg dry	0.636	0.0330	1	"	"	"	"	"	
7440-47-3	Chromium	7.01		mg/kg dry	1.27	0.169	1	"	"	"	"	"	
7439-97-6	Mercury	3.28	GS1, D	mg/kg dry	0.356	0.0988	10	SW846 7471B	"	12-Oct-18	ABW	1813533	

Prepared by method SW846 3051A

7439-92-1	Lead	1,740		mg/kg dry	1.91	0.270	1	SW846 6010C	"	12-Oct-18	EDT	1813532	
7440-36-0	Antimony	< 6.36		mg/kg dry	6.36	0.478	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.91		mg/kg dry	1.91	0.364	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	77.1		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813529	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.342		mg/kg dry	0.342	0.270	1	SW846 9012B	10-Oct-18	12-Oct-18	RLT	1813534	
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Sample Identification

CDW-S25B

SC50962-04

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 11:58

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 2.02		mg/kg dry	2.02	0.218	1	SW846 6010C	11-Oct-18	12-Oct-18	EDT	1813532	
7440-38-2	Arsenic	8.94		mg/kg dry	2.02	0.255	1	"	"	12-Oct-18	"	"	
7440-39-3	Barium	750		mg/kg dry	1.34	0.159	1	"	"	12-Oct-18	"	"	
7440-43-9	Cadmium	0.810		mg/kg dry	0.672	0.0348	1	"	"	"	"	"	
7440-47-3	Chromium	7.78		mg/kg dry	1.34	0.179	1	"	"	"	"	"	
7439-97-6	Mercury	2.90	GS1, D	mg/kg dry	0.404	0.112	10	SW846 7471B	"	12-Oct-18	ABW	1813533	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	1,160		mg/kg dry	2.02	0.285	1	SW846 6010C	"	12-Oct-18	EDT	1813532	
7440-36-0	Antimony	< 6.72		mg/kg dry	6.72	0.505	1	"	"	"	"	"	
7782-49-2	Selenium	< 2.02		mg/kg dry	2.02	0.384	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	74.0		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813529	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	0.494		mg/kg dry	0.386	0.305	1	SW846 9012B	10-Oct-18	12-Oct-18	RLT	1813534	

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Sample Identification

CDW-S26A

SC50962-05

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 12:04

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.77		mg/kg dry	1.77	0.191	1	SW846 6010C	11-Oct-18	12-Oct-18	EDT	1813532	
7440-38-2	Arsenic	10.3		mg/kg dry	1.77	0.224	1	"	"	12-Oct-18	"	"	
7440-39-3	Barium	756		mg/kg dry	1.18	0.139	1	"	"	12-Oct-18	"	"	
7440-43-9	Cadmium	< 0.589		mg/kg dry	0.589	0.0305	1	"	"	"	"	"	
7440-47-3	Chromium	4.83		mg/kg dry	1.18	0.157	1	"	"	"	"	"	
7439-97-6	Mercury	2.68	GS1, D	mg/kg dry	0.320	0.0889	10	SW846 7471B	"	12-Oct-18	ABW	1813533	

Prepared by method SW846 3051A

7439-92-1	Lead	1,140		mg/kg dry	1.77	0.250	1	SW846 6010C	"	12-Oct-18	EDT	1813532	
7440-36-0	Antimony	< 5.89		mg/kg dry	5.89	0.443	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.77		mg/kg dry	1.77	0.337	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	84.7		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813529	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.309		mg/kg dry	0.309	0.244	1	SW846 9012B	10-Oct-18	12-Oct-18	RLT	1813534	
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Sample Identification

CDW-S26B

SC50962-06

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 12:07

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 1.75		mg/kg dry	1.75	0.189	1	SW846 6010C	11-Oct-18	12-Oct-18	EDT	1813532	
7440-38-2	Arsenic	10.1		mg/kg dry	1.75	0.222	1	"	"	12-Oct-18	"	"	
7440-39-3	Barium	648		mg/kg dry	1.17	0.138	1	"	"	12-Oct-18	"	"	
7440-43-9	Cadmium	< 0.584		mg/kg dry	0.584	0.0302	1	"	"	"	"	"	
7440-47-3	Chromium	3.41		mg/kg dry	1.17	0.155	1	"	"	"	"	"	
7439-97-6	Mercury	0.968	GS1, D	mg/kg dry	0.188	0.0523	5	SW846 7471B	"	12-Oct-18	ABW	1813533	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	484		mg/kg dry	1.75	0.247	1	SW846 6010C	"	12-Oct-18	EDT	1813532	
7440-36-0	Antimony	< 5.84		mg/kg dry	5.84	0.439	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.75		mg/kg dry	1.75	0.334	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	79.1		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813529	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.288		mg/kg dry	0.288	0.227	1	SW846 9012B	10-Oct-18	12-Oct-18	RLT	1813534	

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Sample Identification

CDW-S27A

SC50962-07

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 12:13

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 1.74		mg/kg dry	1.74	0.188	1	SW846 6010C	11-Oct-18	12-Oct-18	EDT	1813532	
7440-38-2	Arsenic	8.65		mg/kg dry	1.74	0.221	1	"	"	12-Oct-18	"	"	
7440-39-3	Barium	856		mg/kg dry	1.16	0.137	1	"	"	12-Oct-18	"	"	
7440-43-9	Cadmium	0.669		mg/kg dry	0.582	0.0301	1	"	"	"	"	"	
7440-47-3	Chromium	3.65		mg/kg dry	1.16	0.155	1	"	"	"	"	"	
7439-97-6	Mercury	3.18	GS1, D	mg/kg dry	0.334	0.0926	10	SW846 7471B	"	12-Oct-18	ABW	1813533	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	954		mg/kg dry	1.74	0.247	1	SW846 6010C	"	12-Oct-18	EDT	1813532	
7440-36-0	Antimony	< 5.82		mg/kg dry	5.82	0.437	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.74		mg/kg dry	1.74	0.333	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	84.2		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813529	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.314		mg/kg dry	0.314	0.248	1	SW846 9012B	10-Oct-18	12-Oct-18	RLT	1813534	

Sample Identification

CDW-S27B

SC50962-08

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 12:14

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 1.90		mg/kg dry	1.90	0.205	1	SW846 6010C	11-Oct-18	12-Oct-18	EDT	1813532	
7440-38-2	Arsenic	21.1		mg/kg dry	1.90	0.241	1	"	"	12-Oct-18	"	"	
7440-39-3	Barium	1,980		mg/kg dry	1.27	0.150	1	"	"	12-Oct-18	"	"	
7440-43-9	Cadmium	2.33		mg/kg dry	0.634	0.0328	1	"	"	"	"	"	
7440-47-3	Chromium	8.06		mg/kg dry	1.27	0.169	1	"	"	"	"	"	
7439-97-6	Mercury	3.02	GS1, D	mg/kg dry	0.348	0.0967	10	SW846 7471B	"	12-Oct-18	ABW	1813533	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	2,490		mg/kg dry	1.90	0.269	1	SW846 6010C	"	12-Oct-18	EDT	1813532	
7440-36-0	Antimony	40.1		mg/kg dry	6.34	0.477	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.90		mg/kg dry	1.90	0.363	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	75.7		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813529	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	6.94		mg/kg dry	0.362	0.286	1	SW846 9012B	10-Oct-18	12-Oct-18	RLT	1813534	

Sample Identification

CDW-S28A

SC50962-09

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 12:20

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.78		mg/kg dry	1.78	0.192	1	SW846 6010C	11-Oct-18	12-Oct-18	EDT	1813532	
7440-38-2	Arsenic	10.5		mg/kg dry	1.78	0.226	1	"	"	12-Oct-18	"	"	
7440-39-3	Barium	603		mg/kg dry	1.19	0.140	1	"	"	12-Oct-18	"	"	
7440-43-9	Cadmium	< 0.594		mg/kg dry	0.594	0.0307	1	"	"	"	"	"	
7440-47-3	Chromium	6.11		mg/kg dry	1.19	0.158	1	"	"	"	"	"	
7439-97-6	Mercury	1.77	GS1, D	mg/kg dry	0.176	0.0490	5	SW846 7471B	"	12-Oct-18	ABW	1813533	

Prepared by method SW846 3051A

7439-92-1	Lead	597		mg/kg dry	1.78	0.252	1	SW846 6010C	"	12-Oct-18	EDT	1813532	
7440-36-0	Antimony	< 5.94		mg/kg dry	5.94	0.446	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.78		mg/kg dry	1.78	0.340	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	81.0		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813529	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.321		mg/kg dry	0.321	0.253	1	SW846 9012B	10-Oct-18	12-Oct-18	RLT	1813534	
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Sample Identification

CDW-S28B

SC50962-10

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 12:22

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 1.78		mg/kg dry	1.78	0.192	1	SW846 6010C	11-Oct-18	12-Oct-18	EDT	1813532	
7440-38-2	Arsenic	11.1		mg/kg dry	1.78	0.225	1	"	"	12-Oct-18	"	"	
7440-39-3	Barium	559		mg/kg dry	1.19	0.140	1	"	"	12-Oct-18	"	"	
7440-43-9	Cadmium	< 0.593		mg/kg dry	0.593	0.0307	1	"	"	"	"	"	
7440-47-3	Chromium	5.57		mg/kg dry	1.19	0.158	1	"	"	"	"	"	
7439-97-6	Mercury	2.73	GS1, D	mg/kg dry	0.348	0.0967	10	SW846 7471B	"	12-Oct-18	ABW	1813533	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	646		mg/kg dry	1.78	0.251	1	SW846 6010C	"	12-Oct-18	EDT	1813532	
7440-36-0	Antimony	7.75		mg/kg dry	5.93	0.446	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.78		mg/kg dry	1.78	0.339	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	80.0		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813529	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.330		mg/kg dry	0.330	0.261	1	SW846 9012B	10-Oct-18	12-Oct-18	RLT	1813534	

This laboratory report is not valid without an authorized signature on the cover page.

Sample Identification

CDW-S29A

SC50962-11

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 12:28

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.95		mg/kg dry	1.95	0.211	1	SW846 6010C	11-Oct-18	12-Oct-18	EDT	1813532	
7440-38-2	Arsenic	11.6		mg/kg dry	1.95	0.247	1	"	"	12-Oct-18	"	"	
7440-39-3	Barium	877		mg/kg dry	1.30	0.154	1	"	"	12-Oct-18	"	"	
7440-43-9	Cadmium	1.07		mg/kg dry	0.651	0.0337	1	"	"	"	"	"	
7440-47-3	Chromium	7.56		mg/kg dry	1.30	0.173	1	"	"	"	"	"	
7439-97-6	Mercury	2.11	GS1, D	mg/kg dry	0.384	0.107	10	SW846 7471B	"	12-Oct-18	ABW	1813533	

Prepared by method SW846 3051A

7439-92-1	Lead	1,140		mg/kg dry	1.95	0.276	1	SW846 6010C	"	12-Oct-18	EDT	1813532	
7440-36-0	Antimony	8.02		mg/kg dry	6.51	0.489	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.95		mg/kg dry	1.95	0.372	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	75.9		%				1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813529	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.592		mg/kg dry	0.592	0.468	1	SW846 9012B	10-Oct-18	12-Oct-18	RLT	1813534	
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Sample Identification

CDW-S29B

SC50962-12

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 12:29

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.67		mg/kg dry	1.67	0.180	1	SW846 6010C	11-Oct-18	12-Oct-18	EDT	1813532	
7440-38-2	Arsenic	15.3		mg/kg dry	1.67	0.211	1	"	"	12-Oct-18	"	"	
7440-39-3	Barium	599		mg/kg dry	1.11	0.131	1	"	"	12-Oct-18	"	"	
7440-43-9	Cadmium	0.787		mg/kg dry	0.556	0.0288	1	"	"	"	"	"	
7440-47-3	Chromium	7.34		mg/kg dry	1.11	0.148	1	"	"	"	"	"	
7439-97-6	Mercury	1.65	GS1, D	mg/kg dry	0.175	0.0487	5	SW846 7471B	"	12-Oct-18	ABW	1813533	

Prepared by method SW846 3051A

7439-92-1	Lead	929		mg/kg dry	1.67	0.236	1	SW846 6010C	"	12-Oct-18	EDT	1813532	
7440-36-0	Antimony	10.3		mg/kg dry	5.56	0.418	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.67		mg/kg dry	1.67	0.318	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	82.8		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813529	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	0.453		mg/kg dry	0.333	0.263	1	SW846 9012B	10-Oct-18	12-Oct-18	RLT	1813534	
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Sample Identification

CDW-S30	<u>Client Project #</u>	<u>Matrix</u>	<u>Collection Date/Time</u>	<u>Received</u>
SC50962-13	1515.20	Soil	09-Oct-18 12:35	10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 2.33		mg/kg dry	2.33	0.252	1	SW846 6010C	11-Oct-18	12-Oct-18	EDT	1813532
7440-38-2	Arsenic	17.1		mg/kg dry	2.33	0.295	1	"	"	"	"	"
7440-39-3	Barium	921		mg/kg dry	1.55	0.183	1	"	"	"	"	"
7440-43-9	Cadmium	< 0.777		mg/kg dry	0.777	0.0403	1	"	"	"	"	"
7440-47-3	Chromium	7.11		mg/kg dry	1.55	0.207	1	"	"	"	"	"
7439-97-6	Mercury	4.61	GS1, D	mg/kg dry	0.458	0.127	10	SW846 7471B	"	12-Oct-18	ABW	1813533

Prepared by method SW846 3051A

7439-92-1	Lead	2,680		mg/kg dry	2.33	0.329	1	SW846 6010C	"	12-Oct-18	EDT	1813532
7440-36-0	Antimony	17.0		mg/kg dry	7.77	0.584	1	"	"	"	"	"
7782-49-2	Selenium	< 2.33		mg/kg dry	2.33	0.445	1	"	"	"	"	"

General Chemistry Parameters

% Solids	63.1			%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813529
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.504		mg/kg dry	0.504	0.398	1	SW846 9012B	10-Oct-18	12-Oct-18	RLT	1813535
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Sample Identification

CDW-S31	<u>Client Project #</u>	<u>Matrix</u>	<u>Collection Date/Time</u>	<u>Received</u>
SC50962-14	1515.20	Soil	09-Oct-18 12:38	10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.93		mg/kg dry	1.93	0.209	1	SW846 6010C	11-Oct-18	12-Oct-18	EDT	1813532	
7440-38-2	Arsenic	6.40		mg/kg dry	1.93	0.245	1	"	"	12-Oct-18	"	"	
7440-39-3	Barium	147		mg/kg dry	1.29	0.152	1	"	"	12-Oct-18	"	"	
7440-43-9	Cadmium	< 0.644		mg/kg dry	0.644	0.0334	1	"	"	"	"	"	
7440-47-3	Chromium	5.54		mg/kg dry	1.29	0.171	1	"	"	"	"	"	
7439-97-6	Mercury	0.0957		mg/kg dry	0.0377	0.0105	1	SW846 7471B	"	12-Oct-18	ABW	1813533	

Prepared by method SW846 3051A

7439-92-1	Lead	403		mg/kg dry	1.93	0.273	1	SW846 6010C	"	12-Oct-18	EDT	1813532	
7440-36-0	Antimony	< 6.44		mg/kg dry	6.44	0.484	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.93		mg/kg dry	1.93	0.368	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	73.6			%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813529	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.393		mg/kg dry	0.393	0.310	1	SW846 9012B	10-Oct-18	12-Oct-18	RLT	1813535	
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Sample Identification

CDW-S26B Dup

SC50962-15

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 12:07

Received

10-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.80		mg/kg dry	1.80	0.194	1	SW846 6010C	11-Oct-18	12-Oct-18	EDT	1813532	
7440-38-2	Arsenic	19.5		mg/kg dry	1.80	0.228	1	"	"	12-Oct-18	"	"	
7440-39-3	Barium	651		mg/kg dry	1.20	0.141	1	"	"	12-Oct-18	"	"	
7440-43-9	Cadmium	< 0.599		mg/kg dry	0.599	0.0311	1	"	"	"	"	"	
7440-47-3	Chromium	3.74		mg/kg dry	1.20	0.159	1	"	"	"	"	"	
7439-97-6	Mercury	0.959	GS1, D	mg/kg dry	0.184	0.0510	5	SW846 7471B	"	12-Oct-18	ABW	1813533	

Prepared by method SW846 3051A

7439-92-1	Lead	1,470		mg/kg dry	1.80	0.254	1	SW846 6010C	"	12-Oct-18	EDT	1813532	
7440-36-0	Antimony	< 5.99		mg/kg dry	5.99	0.451	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.80		mg/kg dry	1.80	0.343	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	81.1		%			1	SM2540 G (11) Mod.	10-Oct-18	10-Oct-18	BD	1813529	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.369		mg/kg dry	0.369	0.292	1	SW846 9012B	10-Oct-18	12-Oct-18	RLT	1813535	
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Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW846 6010C</u>										
Batch 1813532 - SW846 3051A										
<u>Blank (1813532-BLK1)</u>					<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>					
Silver	< 1.45		mg/kg wet	1.45						
Arsenic	< 1.45		mg/kg wet	1.45						
Chromium	< 0.968		mg/kg wet	0.968						
Lead	< 1.45		mg/kg wet	1.45						
Antimony	< 4.84		mg/kg wet	4.84						
Selenium	< 1.45		mg/kg wet	1.45						
Cadmium	< 0.484		mg/kg wet	0.484						
Barium	< 0.968		mg/kg wet	0.968						
<u>Duplicate (1813532-DUP1)</u>					<u>Source: SC50962-01</u>		<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>			
Arsenic	6.97		mg/kg dry	1.77		8.28			17	20
Selenium	0.726	J	mg/kg dry	1.77		0.838			14	20
Antimony	4.99	J,QR8	mg/kg dry	5.90		6.67			29	20
Lead	960	QR6	mg/kg dry	1.77		3040			104	20
Chromium	7.09		mg/kg dry	1.18		6.87			3	20
Cadmium	0.398	J,QR8	mg/kg dry	0.590		0.272			38	20
Silver	< 1.77		mg/kg dry	1.77		BRL				20
Barium	478		mg/kg dry	1.18		451			6	20
<u>Matrix Spike (1813532-MS1)</u>					<u>Source: SC50962-01</u>		<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>			
Selenium	111		mg/kg dry	1.70	142	0.838	78	75-125		
Cadmium	113		mg/kg dry	0.568	142	0.272	79	75-125		
Silver	108		mg/kg dry	1.70	142	BRL	76	75-125		
Arsenic	119		mg/kg dry	1.70	142	8.28	78	75-125		
Chromium	123		mg/kg dry	1.14	142	6.87	82	75-125		
Lead	1090	QM2	mg/kg dry	1.70	142	3040	-1370	75-125		
Antimony	117		mg/kg dry	5.68	142	6.67	78	75-125		
Barium	523	QM7	mg/kg dry	1.14	142	451	50	75-125		
<u>Matrix Spike Dup (1813532-MSD1)</u>					<u>Source: SC50962-01</u>		<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>			
Arsenic	114		mg/kg dry	1.64	137	8.28	77	75-125	4	20
Silver	99.0	QM7	mg/kg dry	1.64	137	BRL	72	75-125	8	20
Cadmium	108		mg/kg dry	0.546	137	0.272	79	75-125	5	20
Chromium	117		mg/kg dry	1.09	137	6.87	81	75-125	5	20
Lead	1100	QM2	mg/kg dry	1.64	137	3040	-1420	75-125	0.2	20
Antimony	111		mg/kg dry	5.46	137	6.67	76	75-125	5	20
Selenium	107		mg/kg dry	1.64	137	0.838	78	75-125	4	20
Barium	528	QM7	mg/kg dry	1.09	137	451	56	75-125	1	20
<u>Post Spike (1813532-PS1)</u>					<u>Source: SC50962-01</u>		<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>			
Lead	2850	QM2	mg/kg dry	1.77	147	3040	-128	80-120		
Silver	41.6	QM9	mg/kg dry	1.77	147	BRL	28	80-120		
Arsenic	127		mg/kg dry	1.77	147	8.28	80	80-120		
Cadmium	119		mg/kg dry	0.590	147	0.272	80	80-120		
Antimony	125		mg/kg dry	5.90	147	6.67	80	80-120		
Chromium	130		mg/kg dry	1.18	147	6.87	83	80-120		
Selenium	122		mg/kg dry	1.77	147	0.838	82	80-120		
Barium	532	QM9	mg/kg dry	1.18	147	451	55	80-120		
<u>Reference (1813532-SRM1)</u>					<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>					
Selenium	86.7		mg/kg wet	1.50	96.9		89	79.6-120.9		
Antimony	50.8		mg/kg wet	5.00	38.3		132	25-196		
Lead	48.7		mg/kg wet	1.50	56.3		86	83-117.1		

This laboratory report is not valid without an authorized signature on the cover page.

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW846 6010C</u>										
Batch 1813532 - SW846 3051A										
<u>Reference (1813532-SRM1)</u>	<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>									
Chromium	61.0		mg/kg wet	1.00	69.0		88	82.4-117.6		
Cadmium	94.1		mg/kg wet	0.500	107		88	83.4-116.6		
Arsenic	71.1		mg/kg wet	1.50	81.7		87	83.2-116.8		
Silver	17.6		mg/kg wet	1.50	22.0		80	79.9-119.9		
Barium	113		mg/kg wet	1.00	132		85	82.7-117.3		
<u>Reference (1813532-SRM2)</u>	<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>									
Antimony	46.6		mg/kg wet	5.00	38.3		122	25-196		
Cadmium	85.7	QM9	mg/kg wet	0.500	107		80	83.4-116.6		
Lead	43.6	QM9	mg/kg wet	1.50	56.3		77	83-117.1		
Chromium	53.8	QM9	mg/kg wet	1.00	69.0		78	82.4-117.6		
Arsenic	63.4	QM9	mg/kg wet	1.50	81.7		78	83.2-116.8		
Silver	15.7	QM9	mg/kg wet	1.50	22.0		71	79.9-119.9		
Selenium	76.6	QM9	mg/kg wet	1.50	97.0		79	79.6-120.9		
Barium	99.4	QM9	mg/kg wet	1.00	132		75	82.7-117.3		
<u>SW846 7471B</u>										
Batch 1813533 - EPA200/SW7000 Series										
<u>Blank (1813533-BLK1)</u>	<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>									
Mercury	< 0.0289		mg/kg wet	0.0289						
<u>Duplicate (1813533-DUP1)</u>	<u>Source: SC50962-01 Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>									
Mercury	2.14	GS1, D	mg/kg dry	0.340		2.42			12	20
<u>Matrix Spike (1813533-MS1)</u>	<u>Source: SC50962-01 Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>									
Mercury	1.67	GS1, QM2, D	mg/kg dry	0.349	0.242	2.42	-309	75-125		
<u>Matrix Spike Dup (1813533-MSD1)</u>	<u>Source: SC50962-01 Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>									
Mercury	3.47	GS1, QM2, D	mg/kg dry	0.326	0.226	2.42	463	75-125	70	20
<u>Post Spike (1813533-PS1)</u>	<u>Source: SC50962-01 Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>									
Mercury	5.32	GS1, QM2, D	mg/kg dry	0.339	2.35	2.42	123	80-120		
<u>Reference (1813533-SRM1)</u>	<u>Prepared: 11-Oct-18 Analyzed: 12-Oct-18</u>									
Mercury	3.96	D	mg/kg wet	0.600	3.88		102	71.6-128		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 9012B										
Batch 1813534 - General Preparation										
Blank (1813534-BLK1)										Prepared: 10-Oct-18 Analyzed: 12-Oct-18
Cyanide (total)	< 0.500		mg/kg wet	0.500						
Blank (1813534-BLK2)										Prepared: 10-Oct-18 Analyzed: 12-Oct-18
Cyanide (total)	< 0.500		mg/kg wet	0.500						
LCS (1813534-BS1)										Prepared: 10-Oct-18 Analyzed: 12-Oct-18
Cyanide (total)	24.4		mg/kg wet	0.500	25.0		98	90-110		
LCS (1813534-BS2)										Prepared: 10-Oct-18 Analyzed: 12-Oct-18
Cyanide (total)	24.2		mg/kg wet	0.500	25.0		97	90-110		
Calibration Blank (1813534-CCB1)										Prepared: 10-Oct-18 Analyzed: 12-Oct-18
Cyanide (total)	0.000277		mg/kg wet							
Calibration Blank (1813534-CCB2)										Prepared: 10-Oct-18 Analyzed: 12-Oct-18
Cyanide (total)	-0.000106		mg/kg wet							
Calibration Blank (1813534-CCB3)										Prepared: 10-Oct-18 Analyzed: 12-Oct-18
Cyanide (total)	0.000167		mg/kg wet							
Calibration Check (1813534-CCV1)										Prepared: 10-Oct-18 Analyzed: 12-Oct-18
Cyanide (total)	25.2		mg/kg wet	0.500	25.0		101	90-110		
Calibration Check (1813534-CCV2)										Prepared: 10-Oct-18 Analyzed: 12-Oct-18
Cyanide (total)	25.4		mg/kg wet	0.500	25.0		102	90-110		
Calibration Check (1813534-CCV3)										Prepared: 10-Oct-18 Analyzed: 12-Oct-18
Cyanide (total)	25.3		mg/kg wet	0.500	25.0		101	90-110		
Duplicate (1813534-DUP1)										Source: SC50962-11 Prepared: 10-Oct-18 Analyzed: 12-Oct-18
Cyanide (total)	0.644		mg/kg dry	0.368		0.473			31	35
Matrix Spike (1813534-MS1)										Source: SC50962-11 Prepared: 10-Oct-18 Analyzed: 12-Oct-18
Cyanide (total)	16.8		mg/kg dry	0.332	16.6	0.473	98	90-110		
Matrix Spike Dup (1813534-MSD1)										Source: SC50962-11 Prepared: 10-Oct-18 Analyzed: 12-Oct-18
Cyanide (total)	20.0		mg/kg dry	0.396	19.8	0.473	98	90-110	17	35
Reference (1813534-SRM1)										Prepared: 10-Oct-18 Analyzed: 12-Oct-18
Cyanide (total)	80.9		mg/kg wet	1.27	94.3		86	22.3-116		
Batch 1813535 - General Preparation										
Blank (1813535-BLK1)										Prepared: 10-Oct-18 Analyzed: 12-Oct-18
Cyanide (total)	< 0.500		mg/kg wet	0.500						
Blank (1813535-BLK2)										Prepared: 10-Oct-18 Analyzed: 12-Oct-18
Cyanide (total)	< 0.500		mg/kg wet	0.500						
LCS (1813535-BS1)										Prepared: 10-Oct-18 Analyzed: 12-Oct-18
Cyanide (total)	23.1		mg/kg wet	0.500	25.0		92	90-110		
LCS (1813535-BS2)										Prepared: 10-Oct-18 Analyzed: 12-Oct-18
Cyanide (total)	23.6		mg/kg wet	0.500	25.0		94	90-110		
Calibration Blank (1813535-CCB1)										Prepared: 10-Oct-18 Analyzed: 12-Oct-18
Cyanide (total)	0.000167		mg/kg wet							
Calibration Blank (1813535-CCB2)										Prepared: 10-Oct-18 Analyzed: 12-Oct-18
Cyanide (total)	-0.0000271		mg/kg wet							
Calibration Blank (1813535-CCB3)										Prepared: 10-Oct-18 Analyzed: 12-Oct-18
Cyanide (total)	0.0000227		mg/kg wet							
Calibration Check (1813535-CCV1)										Prepared: 10-Oct-18 Analyzed: 12-Oct-18
Cyanide (total)	25.3		mg/kg wet	0.500	25.0		101	90-110		
Calibration Check (1813535-CCV2)										Prepared: 10-Oct-18 Analyzed: 12-Oct-18
Cyanide (total)	25.1		mg/kg wet	0.500	25.0		100	90-110		
Calibration Check (1813535-CCV3)										Prepared: 10-Oct-18 Analyzed: 12-Oct-18
Cyanide (total)	25.3		mg/kg wet	0.500	25.0		101	90-110		

This laboratory report is not valid without an authorized signature on the cover page.

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW846 9012B</u>										
Batch 1813535 - General Preparation										
<u>Reference (1813535-SRM1)</u>					<u>Prepared: 10-Oct-18 Analyzed: 12-Oct-18</u>					
Cyanide (total)	73.2		mg/kg wet	1.53	94.3		78	22.3-116		

Notes and Definitions

D	Data reported from a dilution
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
QM2	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
QR6	The RPD exceeded the QC control limits; however precision is demonstrated with acceptable RPD values for MS/MSD.
QR8	Analyses are not controlled on RPD values from sample concentrations that are less than 5 times the reporting level. The batch is accepted based upon the difference between the sample and duplicate is less than or equal to the reporting limit.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.



Spectrum Analytical

CHAIN OF CUSTODY RECORD

Page

1 of 2

Special Handling:

- ☐ Standard TAT - 7 to 10 business days
☒ Rush TAT - Date Needed: 10/12/18
All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: CDU Cass Harts

16 Hoon Drive
Water MA 01760

Invoice To: CDU Cass Harts

16 Hoon Drive
Water MA 01760

Project No:

1515.2

Site Name:

BPM Ice Spafund.

Location:

Green Elm MA

State: MA

Telephone #: 508 875 2657

P.O. No.:

Quote #:

F=Field Filtered 1= $\text{Na}_2\text{S}_2\text{O}_3$ 2=HCl 3= H_2SO_4 4= HNO_3 5= NaOH 6=Ascorbic Acid
7= CH_3OH 8= NaHSO_4 9=Deionized Water 10= H_3PO_4 11=APC 12=APC

List Preservative Code below:

QA/QC Reporting Notes:
* additional charges may apply

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas

X1= X2= X3=

G=Grab

C=Composite

Lab ID:

Sample ID:

Date:

Time:

Type

Matrix

of VOA Vials

of Amber Glass

of Clear Glass

of Plastic

Check if chlorinated

MA DEP MCL CAV Report: ☒ Yes ☐ No
CT DEP RCB Report: ☐ Yes ☐ No
☐ Standard ☐ No QC
☐ DSP A* ☐ DSP B* ☐ ND Reduced* ☐ ND Full*
☐ True II* ☐ True IV*
Other: _____
State-specific reporting standards: _____

SC509621

CDU-S2944

10/9/18

1140

C50

1

1

1

1

1

1

1

1

1

1

1

1

1

1

CDU-S2945

10/9/18

1142

C50

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

CDU-S258

10/9/18

1158

C50

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

CDU-S248

10/9/18

1204

C50

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

CDU-S271

10/9/18

1213

C50

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

CDU-S278

10/9/18

1214

C50

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

CDU-S285

10/9/18

1220

C50

1

1

1

1

1

1

1

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1

1

1

1

1

1

Requisitioned by:

Received by:

Time:

Temp °C

Condition upon receipt:

Custody Seals:

Present

Intact

Broken

Ambient

Refrigerated

On VOA frozen

Soil Jar Frozen

Signature

Signature

Signature

Signature

Signature

Signature

Signature

Signature

Signature

Signature

Signature



Spectrum Analytical

CHAIN OF CUSTODY RECORD

Page 2 of 2

SCS0962 By

Special Handling:

- ☐ Standard TAT - 7 to 10 business days
 - ☒ Rush TAT - Date Needed: 10/16/16
- All TAT's subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 90 days unless otherwise instructed.

Report To: CDM Consultants

Invoice To: CDM Consultants

Project No: 1515.2

Telephone #: See SCS 2054

Site Name: Spence Superfund

Location: 300 West Franklin St State: MA

Project Mgr: See SCS 2054

Quote #:

Sampler(s): See SCS 2054

F=Field Filtered 1-Na₂SO₄ 2-HCl 3-H₂SO₄ 4-HNO₃ 5-NaOH 6-Ascorbic Acid

T=CH₃OH 8-NaHSO₄ 9-Detoxified Water 10-H₂PO₄ 11= 12=

List Preservative Code Below:

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water

O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas

X1= X2= X3=

G=Grab C=Composite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix
SCS0962-1	CDM-S291A	10/9/16	1208	C-50	
	CDM-S296	10/9/16	1209	C-50	
	CDM-S30	10/9/16	1235	G-50	
	CDM-S31	10/9/16	1238	G-50	
	CDM-Saubap	10/9/16	1207	C-50	

Containers	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic
	1	1		
	1			
	1			
	1			
	1			

Analysis	MA DEP MCP CAM Report	CT DEP RCP Report	Standard	No QC	DQA*	ASP A*	ASP B*	NI Full*	NIer IV*	Other:	State-specific reporting standards:
Reactive Metals											
Ammonia											
Cyanide											

QA/QC Reporting Notes:	* additional charges may apply

Relinquished by: [Signature]

Received by: [Signature]

Date: 10/16/16 Time: 10:15

Temp °C: 3.2

Condition upon receipt: ☒ Ambient ☐ Ice ☒ Refrigerated

Custody Seals: ☐ Present ☐ Intact ☐ Broken

Condition upon receipt: ☐ Ambient ☐ Ice ☒ Refrigerated

Condition upon receipt: ☐ Present ☐ Intact ☐ Broken

E-mail to: scs@cdm.com

E-mail to: scs@cdm.com

E-mail to: scs@cdm.com

E-mail to: scs@cdm.com

Condition upon receipt: ☐ Ambient ☐ Ice ☒ Refrigerated

Custody Seals: ☐ Present ☐ Intact ☐ Broken

Condition upon receipt: ☐ Ambient ☐ Ice ☒ Refrigerated

Condition upon receipt: ☐ Present ☐ Intact ☐ Broken

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Condition upon receipt: ☐ Ambient ☐ Ice ☒ Refrigerated

Condition upon receipt: ☐ Present ☐ Intact ☐ Broken

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E-mail to: scs@cdm.com

E-mail to: scs@cdm.com

Batch Summary

1813529

General Chemistry Parameters

SC50962-01 (CDW-S24A)
SC50962-02 (CDW-S24B)
SC50962-03 (CDW-S25A)
SC50962-04 (CDW-S25B)
SC50962-05 (CDW-S26A)
SC50962-06 (CDW-S26B)
SC50962-07 (CDW-S27A)
SC50962-08 (CDW-S27B)
SC50962-09 (CDW-S28A)
SC50962-10 (CDW-S28B)
SC50962-11 (CDW-S29A)
SC50962-12 (CDW-S29B)
SC50962-13 (CDW-S30)
SC50962-14 (CDW-S31)
SC50962-15 (CDW-S26B Dup)

1813532

Total Metals by EPA 6000/7000 Series Methods

1813532-BLK1
1813532-DUP1
1813532-MS1
1813532-MSD1
1813532-PS1
1813532-SRM1
1813532-SRM2
SC50962-01 (CDW-S24A)
SC50962-02 (CDW-S24B)
SC50962-03 (CDW-S25A)
SC50962-04 (CDW-S25B)
SC50962-05 (CDW-S26A)
SC50962-06 (CDW-S26B)
SC50962-07 (CDW-S27A)
SC50962-08 (CDW-S27B)
SC50962-09 (CDW-S28A)
SC50962-10 (CDW-S28B)
SC50962-11 (CDW-S29A)
SC50962-12 (CDW-S29B)
SC50962-13 (CDW-S30)
SC50962-14 (CDW-S31)
SC50962-15 (CDW-S26B Dup)

1813533

Total Metals by EPA 6000/7000 Series Methods

1813533-BLK1
1813533-DUP1
1813533-MS1
1813533-MSD1
1813533-PS1
1813533-SRM1
SC50962-01 (CDW-S24A)

SC50962-02 (CDW-S24B)
SC50962-03 (CDW-S25A)
SC50962-04 (CDW-S25B)
SC50962-05 (CDW-S26A)
SC50962-06 (CDW-S26B)
SC50962-07 (CDW-S27A)
SC50962-08 (CDW-S27B)
SC50962-09 (CDW-S28A)
SC50962-10 (CDW-S28B)
SC50962-11 (CDW-S29A)
SC50962-12 (CDW-S29B)
SC50962-13 (CDW-S30)
SC50962-14 (CDW-S31)
SC50962-15 (CDW-S26B Dup)

1813534

General Chemistry Parameters

1813534-BLK1
1813534-BLK2
1813534-BS1
1813534-BS2
1813534-CCB1
1813534-CCB2
1813534-CCB3
1813534-CCV1
1813534-CCV2
1813534-CCV3
1813534-DUP1
1813534-MS1
1813534-MSD1
1813534-SRM1
SC50962-01 (CDW-S24A)
SC50962-02 (CDW-S24B)
SC50962-03 (CDW-S25A)
SC50962-04 (CDW-S25B)
SC50962-05 (CDW-S26A)
SC50962-06 (CDW-S26B)
SC50962-07 (CDW-S27A)
SC50962-08 (CDW-S27B)
SC50962-09 (CDW-S28A)
SC50962-10 (CDW-S28B)
SC50962-11 (CDW-S29A)
SC50962-12 (CDW-S29B)

1813535**General Chemistry Parameters**

1813535-BLK1

1813535-BLK2

1813535-BS1

1813535-BS2

1813535-CCB1

1813535-CCB2

1813535-CCB3

1813535-CCV1

1813535-CCV2

1813535-CCV3

1813535-SRM1

SC50962-13 (CDW-S30)

SC50962-14 (CDW-S31)

SC50962-15 (CDW-S26B Dup)

Report Date:
19-Oct-18 15:49

Laboratory Report SC51047

CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760
Attn: Susan Cahalan-Roach

Project: BTAT LLC Superfund Site - Franklin, MA
Project #: 1515.20

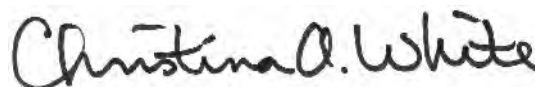
I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393



Authorized by:

Christina White
Technical Director



Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.

Please note that this report contains 52 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our Quality web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

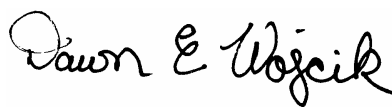
Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC51047
Project: BTAT LLC Superfund Site - Franklin, MA
Project Number: 1515.20

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SC51047-01	CDW-S32	Soil	09-Oct-18 14:10	12-Oct-18 15:15
SC51047-02	CDW-S33	Soil	09-Oct-18 14:14	12-Oct-18 15:15
SC51047-03	CDW-S34	Soil	09-Oct-18 14:16	12-Oct-18 15:15
SC51047-04	CDW-S35	Soil	09-Oct-18 14:20	12-Oct-18 15:15
SC51047-05	CDW-S36A	Soil	09-Oct-18 14:23	12-Oct-18 15:15
SC51047-06	CDW-S36B	Soil	09-Oct-18 14:24	12-Oct-18 15:15
SC51047-07	CDW-S37	Soil	09-Oct-18 14:25	12-Oct-18 15:15
SC51047-08	CDW-S37 Dup	Soil	09-Oct-18 14:25	12-Oct-18 15:15
SC51047-09	CDW-S38A	Soil	09-Oct-18 14:26	12-Oct-18 15:15
SC51047-10	CDW-S38B	Soil	09-Oct-18 14:27	12-Oct-18 15:15
SC51047-11	CDW-S39	Soil	09-Oct-18 14:29	12-Oct-18 15:15
SC51047-12	CDW-S40A	Soil	09-Oct-18 14:30	12-Oct-18 15:15
SC51047-13	CDW-S40B	Soil	09-Oct-18 14:31	12-Oct-18 15:15
SC51047-14	CDW-S41	Soil	09-Oct-18 14:36	12-Oct-18 15:15
SC51047-15	CDW-S42A	Soil	09-Oct-18 14:38	12-Oct-18 15:15
SC51047-16	CDW-S42B	Soil	09-Oct-18 14:40	12-Oct-18 15:15
SC51047-17	CDW-S43A	Soil	11-Oct-18 09:10	12-Oct-18 15:15
SC51047-18	CDW-S43B	Soil	11-Oct-18 09:12	12-Oct-18 15:15
SC51047-19	CDW-S44A	Soil	11-Oct-18 09:14	12-Oct-18 15:15
SC51047-20	CDW-S44B	Soil	11-Oct-18 09:15	12-Oct-18 15:15
SC51047-21	CDW-S45A	Soil	11-Oct-18 09:16	12-Oct-18 15:15
SC51047-22	CDW-S45B	Soil	11-Oct-18 09:17	12-Oct-18 15:15
SC51047-23	CDW-S46A	Soil	11-Oct-18 09:19	12-Oct-18 15:15
SC51047-24	CDW-S46B	Soil	11-Oct-18 09:20	12-Oct-18 15:15
SC51047-25	CDW-S47A	Soil	11-Oct-18 09:23	12-Oct-18 15:15
SC51047-26	CDW-S47B	Soil	11-Oct-18 09:24	12-Oct-18 15:15
SC51047-27	CDW-S48	Soil	11-Oct-18 09:25	12-Oct-18 15:15
SC51047-28	CDW-S48 Dup	Soil	11-Oct-18 09:25	12-Oct-18 15:15

MassDEP Analytical Protocol Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.			Project #: 1515.20		
Project Location: BTAT LLC Superfund Site - Franklin, MA			RTN:		
This form provides certifications for the following data set:			SC51047-01 through SC51047-28		
Matrices: Soil					
CAM Protocol					
8260 VOC CAM II A	✓ 7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
✓ 6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	✓ 9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B
<i>Affirmative responses to questions A through F are required for Presumptive Certainty's status</i>					
A	Were all samples received in a condition consistent with those described on the Chain of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?				✓ Yes No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?				✓ Yes No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?				✓ Yes No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?				✓ Yes No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?				Yes No Yes No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to questions A through E)?				✓ Yes No
<i>Responses to questions G, H and I below are required for Presumptive Certainty's status</i>					
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?				Yes ✓ No
Data User Note: Data that achieve Presumptive Certainty's status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.					
H	Were all QC performance standards specified in the CAM protocol(s) achieved?				Yes ✓ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?				Yes ✓ No
<i>All negative responses are addressed in a case narrative on the cover page of this report.</i>					
<p><i>I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.</i></p> <div style="text-align: right; margin-top: 20px;">  Dawn E. Wojcik Laboratory Director Date: 10/19/2018 </div>					

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 3.0 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 6010C

Spikes:

1813716-MS1 *Source: SC51047-01*

The spike recovery exceeded the QC control limits for the MS and/or MSD. The batch was accepted based upon acceptable PS and /or LCS recovery.

Antimony

1813716-MSD1 *Source: SC51047-01*

The spike recovery exceeded the QC control limits for the MS and/or MSD. The batch was accepted based upon acceptable PS and /or LCS recovery.

Antimony

1813797-MS1 *Source: SC51047-21*

Due to noted non-homogeneity of the QC sample matrix, the MS/MSD and/or PS did not provide reliable results for accuracy and precision. Sample results for the QC batch were accepted based on LCS/LCSD percent recoveries and RPD values.

Lead

The spike recovery exceeded the QC control limits for the MS and/or MSD. The batch was accepted based upon acceptable PS and /or LCS recovery.

Barium

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Silver

1813797-MSD1 *Source: SC51047-21*

SW846 6010C

Spikes:

1813797-MSD1 *Source: SC51047-21*

Due to noted non-homogeneity of the QC sample matrix, the MS/MSD and/or PS did not provide reliable results for accuracy and precision. Sample results for the QC batch were accepted based on LCS/LCSD percent recoveries and RPD values.

Lead

The spike recovery exceeded the QC control limits for the MS and/or MSD. The batch was accepted based upon acceptable PS and /or LCS recovery.

Barium

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Silver

1813797-PS1 *Source: SC51047-21*

Due to noted non-homogeneity of the QC sample matrix, the MS/MSD and/or PS did not provide reliable results for accuracy and precision. Sample results for the QC batch were accepted based on LCS/LCSD percent recoveries and RPD values.

Lead

Duplicates:

1813716-DUP1 *Source: SC51047-01*

Analyses are not controlled on RPD values from sample concentrations that are less than 5 times the reporting level. The batch is accepted based upon the difference between the sample and duplicate is less than or equal to the reporting limit.

Cadmium

1813797-DUP1 *Source: SC51047-21*

Analyses are not controlled on RPD values from sample concentrations that are less than 5 times the reporting level. The batch is accepted based upon the difference between the sample and duplicate is less than or equal to the reporting limit.

Antimony

Arsenic

Cadmium

RPD out of acceptance range. The batch is accepted based upon LCS and/or LCSD recovery.

Barium

Visual evaluation of the sample indicates the RPD is above the control limit due to a non-homogeneous sample matrix.

Lead

Samples:

SC51047-04 *CDW-S35*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Barium

Lead

SC51047-05 *CDW-S36A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Lead

SC51047-06 *CDW-S36B*

SW846 6010C

Samples:

SC51047-06 *CDW-S36B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Lead

SC51047-09 *CDW-S38A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Barium

Lead

SC51047-10 *CDW-S38B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Barium

Lead

SC51047-12 *CDW-S40A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Lead

SW846 7471B

Spikes:

1813798-MS1 *Source: SC51047-21*

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Mercury

1813798-MSD1 *Source: SC51047-21*

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Mercury

1813798-PS1 *Source: SC51047-21*

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Mercury

Duplicates:

1813798-DUP1 *Source: SC51047-21*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Mercury

Samples:

SC51047-03 *CDW-S34*

SW846 7471B**Samples:**

SC51047-03 *CDW-S34*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51047-04 *CDW-S35*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51047-05 *CDW-S36A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51047-06 *CDW-S36B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51047-07 *CDW-S37*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51047-08 *CDW-S37 Dup*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51047-09 *CDW-S38A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51047-10 *CDW-S38B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51047-12 *CDW-S40A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51047-13 *CDW-S40B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51047-15 *CDW-S42A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51047-16 *CDW-S42B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SW846 7471B**Samples:**

SC51047-17 *CDW-S43A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51047-18 *CDW-S43B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51047-19 *CDW-S44A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51047-20 *CDW-S44B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51047-21 *CDW-S45A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51047-22 *CDW-S45B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51047-23 *CDW-S46A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51047-24 *CDW-S46B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51047-25 *CDW-S47A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51047-26 *CDW-S47B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SW846 9012B**Spikes:**

1813786-MS1 *Source: SC51047-13*

The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.

Cyanide (total)

1813786-MSD1 *Source: SC51047-13*

SW846 9012B

Spikes:

1813786-MSD1

Source: SC51047-13

The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.

Cyanide (total)

Sample Acceptance Check Form

Client: CDW Consultants, Inc.
Project: BTAT LLC Superfund Site - Franklin, MA / 1515.20
Work Order: SC51047
Sample(s) received on: 10/12/2018

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Were custody seals present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were custody seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Were samples received at a temperature of $\leq 6^{\circ}\text{C}$?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples refrigerated upon transfer to laboratory representative?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were sample containers received intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples accompanied by a Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did sample container labels agree with Chain of Custody document?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were samples received within method-specific holding times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Summary of Hits

Lab ID: SC51047-01

Client ID: CDW-S32

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Barium	72.5		1.34	mg/kg	SW846 6010C
Chromium	8.32		1.34	mg/kg	SW846 6010C
Lead	12.8		2.01	mg/kg	SW846 6010C
Mercury	0.0716		0.0350	mg/kg	SW846 7471B

Lab ID: SC51047-02

Client ID: CDW-S33

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	2.23		1.79	mg/kg	SW846 6010C
Barium	259		1.19	mg/kg	SW846 6010C
Cadmium	0.647		0.596	mg/kg	SW846 6010C
Chromium	7.44		1.19	mg/kg	SW846 6010C
Lead	568		1.79	mg/kg	SW846 6010C
Mercury	0.263		0.0333	mg/kg	SW846 7471B

Lab ID: SC51047-03

Client ID: CDW-S34

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	3.08		2.16	mg/kg	SW846 6010C
Barium	2870		1.44	mg/kg	SW846 6010C
Cadmium	2.36		0.720	mg/kg	SW846 6010C
Chromium	11.4		1.44	mg/kg	SW846 6010C
Lead	547		2.16	mg/kg	SW846 6010C
Mercury	2.37	GS1, D0.203		mg/kg	SW846 7471B

Lab ID: SC51047-04

Client ID: CDW-S35

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	37.3		14.6	mg/kg	SW846 6010C
Arsenic	46.3		4.39	mg/kg	SW846 6010C
Barium	10800	D, GS1	14.6	mg/kg	SW846 6010C
Cadmium	21.3		1.46	mg/kg	SW846 6010C
Chromium	43.8		2.93	mg/kg	SW846 6010C
Lead	34100	GS1, D	21.9	mg/kg	SW846 6010C
Mercury	62.9	GS1, D	4.51	mg/kg	SW846 7471B

Lab ID: SC51047-05

Client ID: CDW-S36A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	16.9		7.34	mg/kg	SW846 6010C
Arsenic	28.0		2.20	mg/kg	SW846 6010C
Barium	3140		1.47	mg/kg	SW846 6010C
Cadmium	8.65		0.734	mg/kg	SW846 6010C
Chromium	12.2		1.47	mg/kg	SW846 6010C
Lead	12200	GS1, D	11.0	mg/kg	SW846 6010C
Mercury	13.5	GS1, D	0.864	mg/kg	SW846 7471B

Lab ID: SC51047-06**Client ID:** CDW-S36B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	15.8		8.05	mg/kg	SW846 6010C
Arsenic	35.4		2.42	mg/kg	SW846 6010C
Barium	3640		1.61	mg/kg	SW846 6010C
Cadmium	15.5		0.805	mg/kg	SW846 6010C
Chromium	13.6		1.61	mg/kg	SW846 6010C
Lead	14700	GS1, D12.1		mg/kg	SW846 6010C
Mercury	10.3	GS1, D0.895		mg/kg	SW846 7471B

Lab ID: SC51047-07**Client ID:** CDW-S37

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	18.1		2.11	mg/kg	SW846 6010C
Barium	454		1.41	mg/kg	SW846 6010C
Cadmium	3.48		0.705	mg/kg	SW846 6010C
Chromium	8.25		1.41	mg/kg	SW846 6010C
Lead	2620		2.11	mg/kg	SW846 6010C
Mercury	11.4	GS1, D0.851		mg/kg	SW846 7471B

Lab ID: SC51047-08**Client ID:** CDW-S37 Dup

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	3.25		2.12	mg/kg	SW846 6010C
Barium	967		1.41	mg/kg	SW846 6010C
Cadmium	0.820		0.707	mg/kg	SW846 6010C
Chromium	4.97		1.41	mg/kg	SW846 6010C
Lead	3070		2.12	mg/kg	SW846 6010C
Mercury	15.1	GS1, D1.52		mg/kg	SW846 7471B

Lab ID: SC51047-09**Client ID:** CDW-S38A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	18.4		6.56	mg/kg	SW846 6010C
Arsenic	36.0		1.97	mg/kg	SW846 6010C
Barium	9350	D, GS113.1		mg/kg	SW846 6010C
Cadmium	11.0		0.656	mg/kg	SW846 6010C
Chromium	26.1		1.31	mg/kg	SW846 6010C
Lead	16800	GS1, D19.7		mg/kg	SW846 6010C
Mercury	30.8	GS1, D1.96		mg/kg	SW846 7471B

Lab ID: SC51047-10**Client ID:** CDW-S38B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	20.1		6.36	mg/kg	SW846 6010C
Arsenic	38.2		1.91	mg/kg	SW846 6010C
Barium	7940	D, GS1	12.7	mg/kg	SW846 6010C
Cadmium	13.5		0.636	mg/kg	SW846 6010C
Chromium	22.1		1.27	mg/kg	SW846 6010C
Lead	12500	GS1, D	19.1	mg/kg	SW846 6010C
Mercury	27.3	GS1, D	1.77	mg/kg	SW846 7471B

Lab ID: SC51047-11**Client ID:** CDW-S39

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Barium	51.2		1.48	mg/kg	SW846 6010C
Chromium	9.29		1.48	mg/kg	SW846 6010C
Lead	42.2		2.22	mg/kg	SW846 6010C
Mercury	0.160		0.0390	mg/kg	SW846 7471B

Lab ID: SC51047-12**Client ID:** CDW-S40A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	627		11.8	mg/kg	SW846 6010C
Arsenic	54.8		3.55	mg/kg	SW846 6010C
Barium	3150		2.37	mg/kg	SW846 6010C
Cadmium	4.68		1.18	mg/kg	SW846 6010C
Chromium	32.9		2.37	mg/kg	SW846 6010C
Lead	86400	GS1, D	177	mg/kg	SW846 6010C
Mercury	41.0	GS1, D	3.73	mg/kg	SW846 7471B
Cyanide (total)	8.69		0.656	mg/kg	SW846 9012B

Lab ID: SC51047-13**Client ID:** CDW-S40B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	15.2		6.29	mg/kg	SW846 6010C
Arsenic	8.98		1.89	mg/kg	SW846 6010C
Barium	1140		1.26	mg/kg	SW846 6010C
Cadmium	2.14		0.629	mg/kg	SW846 6010C
Chromium	8.42		1.26	mg/kg	SW846 6010C
Lead	4640		1.89	mg/kg	SW846 6010C
Mercury	9.55	GS1, D	0.699	mg/kg	SW846 7471B

Lab ID: SC51047-14**Client ID:** CDW-S41

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Barium	34.2		1.16	mg/kg	SW846 6010C
Chromium	5.23		1.16	mg/kg	SW846 6010C
Lead	96.6		1.74	mg/kg	SW846 6010C
Mercury	0.131		0.0316	mg/kg	SW846 7471B

Lab ID: SC51047-15**Client ID:** CDW-S42A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	18.3		2.02	mg/kg	SW846 6010C
Barium	1090		1.34	mg/kg	SW846 6010C
Cadmium	1.92		0.672	mg/kg	SW846 6010C
Chromium	12.9		1.34	mg/kg	SW846 6010C
Lead	2230		2.02	mg/kg	SW846 6010C
Mercury	2.85	GS1, D0.399		mg/kg	SW846 7471B

Lab ID: SC51047-16**Client ID:** CDW-S42B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	16.4		1.89	mg/kg	SW846 6010C
Barium	854		1.26	mg/kg	SW846 6010C
Cadmium	1.73		0.629	mg/kg	SW846 6010C
Chromium	12.7		1.26	mg/kg	SW846 6010C
Lead	1700		1.89	mg/kg	SW846 6010C
Mercury	2.14	GS1, D0.184		mg/kg	SW846 7471B

Lab ID: SC51047-17**Client ID:** CDW-S43A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	8.90		2.08	mg/kg	SW846 6010C
Barium	293		1.39	mg/kg	SW846 6010C
Cadmium	2.95		0.693	mg/kg	SW846 6010C
Chromium	10.8		1.39	mg/kg	SW846 6010C
Lead	515		2.08	mg/kg	SW846 6010C
Mercury	10.9	GS1, D0.807		mg/kg	SW846 7471B

Lab ID: SC51047-18**Client ID:** CDW-S43B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	6.04		2.37	mg/kg	SW846 6010C
Barium	308		1.58	mg/kg	SW846 6010C
Cadmium	1.68		0.790	mg/kg	SW846 6010C
Chromium	11.1		1.58	mg/kg	SW846 6010C
Lead	312		2.37	mg/kg	SW846 6010C
Mercury	7.80	GS1, D0.972		mg/kg	SW846 7471B

Lab ID: SC51047-19**Client ID:** CDW-S44A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	3.23		2.24	mg/kg	SW846 6010C
Barium	80.4		1.49	mg/kg	SW846 6010C
Chromium	10.5		1.49	mg/kg	SW846 6010C
Lead	84.4		2.24	mg/kg	SW846 6010C
Mercury	1.86	GS1, D0.230		mg/kg	SW846 7471B

Lab ID: SC51047-20**Client ID:** CDW-S44B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	3.16		1.91	mg/kg	SW846 6010C
Barium	70.7		1.27	mg/kg	SW846 6010C
Chromium	12.3		1.27	mg/kg	SW846 6010C
Lead	36.6		1.91	mg/kg	SW846 6010C
Mercury	1.16	GS1, D0.0737		mg/kg	SW846 7471B

Lab ID: SC51047-21**Client ID:** CDW-S45A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	7.39		5.98	mg/kg	SW846 6010C
Arsenic	9.81		1.80	mg/kg	SW846 6010C
Barium	427		1.20	mg/kg	SW846 6010C
Chromium	6.80		1.20	mg/kg	SW846 6010C
Lead	435		1.80	mg/kg	SW846 6010C
Mercury	4.23	GS1, D0.718		mg/kg	SW846 7471B

Lab ID: SC51047-22**Client ID:** CDW-S45B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	3.47		2.12	mg/kg	SW846 6010C
Barium	140		1.41	mg/kg	SW846 6010C
Chromium	7.76		1.41	mg/kg	SW846 6010C
Lead	91.4		2.12	mg/kg	SW846 6010C
Mercury	1.81	GS1, D0.197		mg/kg	SW846 7471B

Lab ID: SC51047-23**Client ID:** CDW-S46A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	2.84		1.64	mg/kg	SW846 6010C
Barium	492		1.10	mg/kg	SW846 6010C
Cadmium	1.53		0.548	mg/kg	SW846 6010C
Chromium	5.38		1.10	mg/kg	SW846 6010C
Lead	221		1.64	mg/kg	SW846 6010C
Mercury	1.79	GS1, D0.160		mg/kg	SW846 7471B
Cyanide (total)	0.317		0.304	mg/kg	SW846 9012B

Lab ID: SC51047-24**Client ID:** CDW-S46B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	4.37		1.92	mg/kg	SW846 6010C
Barium	216		1.28	mg/kg	SW846 6010C
Chromium	6.72		1.28	mg/kg	SW846 6010C
Lead	335		1.92	mg/kg	SW846 6010C
Mercury	2.69	GS1, D0.184		mg/kg	SW846 7471B

Lab ID: SC51047-25**Client ID:** CDW-S47A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	20.8		5.69	mg/kg	SW846 6010C
Arsenic	2.21		1.71	mg/kg	SW846 6010C
Barium	1210		1.14	mg/kg	SW846 6010C
Cadmium	1.36		0.569	mg/kg	SW846 6010C
Chromium	5.95		1.14	mg/kg	SW846 6010C
Lead	394		1.71	mg/kg	SW846 6010C
Mercury	1.04	GS1, D0.158		mg/kg	SW846 7471B

Lab ID: SC51047-26**Client ID:** CDW-S47B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	14.9		6.17	mg/kg	SW846 6010C
Arsenic	5.23		1.85	mg/kg	SW846 6010C
Barium	1680		1.23	mg/kg	SW846 6010C
Cadmium	4.85		0.617	mg/kg	SW846 6010C
Chromium	10.8		1.23	mg/kg	SW846 6010C
Lead	632		1.85	mg/kg	SW846 6010C
Mercury	3.98	GS1, D0.374		mg/kg	SW846 7471B

Lab ID: SC51047-27**Client ID:** CDW-S48

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	2.24		1.94	mg/kg	SW846 6010C
Barium	56.7		1.29	mg/kg	SW846 6010C
Chromium	7.02		1.29	mg/kg	SW846 6010C
Lead	67.5		1.94	mg/kg	SW846 6010C
Mercury	0.363		0.0393	mg/kg	SW846 7471B

Lab ID: SC51047-28**Client ID:** CDW-S48 Dup

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	2.52		2.12	mg/kg	SW846 6010C
Barium	60.2		1.42	mg/kg	SW846 6010C
Chromium	7.81		1.42	mg/kg	SW846 6010C
Lead	82.7		2.12	mg/kg	SW846 6010C
Mercury	0.574		0.0389	mg/kg	SW846 7471B

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification

CDW-S32	<u>Client Project #</u>	<u>Matrix</u>	<u>Collection Date/Time</u>	<u>Received</u>
SC51047-01	1515.20	Soil	09-Oct-18 14:10	12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 2.01		mg/kg dry	2.01	0.217	1	SW846 6010C	16-Oct-18	18-Oct-18	SC/TBC	1813716
7440-38-2	Arsenic	< 2.01		mg/kg dry	2.01	0.254	1	"	"	"	"	"
7440-39-3	Barium	72.5		mg/kg dry	1.34	0.158	1	"	"	"	"	"
7440-43-9	Cadmium	< 0.669		mg/kg dry	0.669	0.0347	1	"	"	"	"	"
7440-47-3	Chromium	8.32		mg/kg dry	1.34	0.178	1	"	"	"	"	"
7439-97-6	Mercury	0.0716		mg/kg dry	0.0350	0.0097	1	SW846 7471B	"	17-Oct-18	ABW	1813717

Prepared by method SW846 3050B

7439-92-1	Lead	12.8		mg/kg dry	2.01	0.284	1	SW846 6010C	"	18-Oct-18	SC/EDT	1813716
7440-36-0	Antimony	< 6.69		mg/kg dry	6.69	0.503	1	"	"	18-Oct-18	"	"
7782-49-2	Selenium	< 2.01		mg/kg dry	2.01	0.383	1	"	"	"	"	"

General Chemistry Parameters

% Solids	74.4			%			1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813700
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.338		mg/kg dry	0.338	0.267	1	SW846 9012B	16-Oct-18	17-Oct-18	RLT	1813785
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Sample Identification

CDW-S33	<u>Client Project #</u>	<u>Matrix</u>	<u>Collection Date/Time</u>	<u>Received</u>
SC51047-02	1515.20	Soil	09-Oct-18 14:14	12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 1.79		mg/kg dry	1.79	0.193	1	SW846 6010C	16-Oct-18	18-Oct-18	SC/TBC	1813716
7440-38-2	Arsenic	2.23		mg/kg dry	1.79	0.227	1	"	"	"	"	"
7440-39-3	Barium	259		mg/kg dry	1.19	0.141	1	"	"	"	"	"
7440-43-9	Cadmium	0.647		mg/kg dry	0.596	0.0309	1	"	"	"	"	"
7440-47-3	Chromium	7.44		mg/kg dry	1.19	0.159	1	"	"	"	"	"
7439-97-6	Mercury	0.263		mg/kg dry	0.0333	0.0092	1	SW846 7471B	"	17-Oct-18	ABW	1813717

Prepared by method SW846 3050B

7439-92-1	Lead	568		mg/kg dry	1.79	0.253	1	SW846 6010C	"	18-Oct-18	SC/EDT	1813716
7440-36-0	Antimony	< 5.96		mg/kg dry	5.96	0.448	1	"	"	18-Oct-18	"	"
7782-49-2	Selenium	< 1.79		mg/kg dry	1.79	0.341	1	"	"	"	"	"

General Chemistry Parameters

% Solids	80.1		%				1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813700
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.369		mg/kg dry	0.369	0.292	1	SW846 9012B	16-Oct-18	17-Oct-18	RLT	1813785
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Sample Identification

CDW-S34	<u>Client Project #</u>	<u>Matrix</u>	<u>Collection Date/Time</u>	<u>Received</u>
SC51047-03	1515.20	Soil	09-Oct-18 14:16	12-Oct-18

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 2.16		mg/kg dry	2.16	0.233	1	SW846 6010C	16-Oct-18	18-Oct-18	SC/TBC	1813716
7440-38-2	Arsenic	3.08		mg/kg dry	2.16	0.274	1	"	"	"	"	"
7440-39-3	Barium	2,870		mg/kg dry	1.44	0.170	1	"	"	"	"	"
7440-43-9	Cadmium	2.36		mg/kg dry	0.720	0.0373	1	"	"	"	"	"
7440-47-3	Chromium	11.4		mg/kg dry	1.44	0.192	1	"	"	"	"	"
7439-97-6	Mercury	2.37	GS1, D	mg/kg dry	0.203	0.0563	5	SW846 7471B	"	17-Oct-18	ABW	1813717

Prepared by method SW846 3050B

7439-92-1	Lead	547		mg/kg dry	2.16	0.305	1	SW846 6010C	"	18-Oct-18	SC/EDT	1813716
7440-36-0	Antimony	< 7.20		mg/kg dry	7.20	0.541	1	"	"	18-Oct-18	"	"
7782-49-2	Selenium	< 2.16		mg/kg dry	2.16	0.412	1	"	"	"	"	"

General Chemistry Parameters

% Solids	68.6		%				1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813700
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.436		mg/kg dry	0.436	0.345	1	SW846 9012B	16-Oct-18	17-Oct-18	RLT	1813785
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Sample Identification

CDW-S35	<u>Client Project #</u>	<u>Matrix</u>	<u>Collection Date/Time</u>	<u>Received</u>
SC51047-04	1515.20	Soil	09-Oct-18 14:20	12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 4.39		mg/kg dry	4.39	0.474	1	SW846 6010C	16-Oct-18	18-Oct-18	SC/TBC	1813716
7440-38-2	Arsenic	46.3		mg/kg dry	4.39	0.556	1	"	"	"	"	"
7440-39-3	Barium	10,800	D, GS1	mg/kg dry	14.6	1.73	5	"	"	18-Oct-18	"	"
7440-43-9	Cadmium	21.3		mg/kg dry	1.46	0.0758	1	"	"	18-Oct-18	"	"
7440-47-3	Chromium	43.8		mg/kg dry	2.93	0.389	1	"	"	"	"	"
7439-97-6	Mercury	62.9	GS1, D	mg/kg dry	4.51	1.25	50	SW846 7471B	"	17-Oct-18	ABW	1813717

Prepared by method SW846 3050B

7439-92-1	Lead	34,100	GS1, D	mg/kg dry	21.9	3.10	5	SW846 6010C	"	18-Oct-18	SC/EDT	1813716
7440-36-0	Antimony	37.3		mg/kg dry	14.6	1.10	1	"	"	18-Oct-18	"	"
7782-49-2	Selenium	< 4.39		mg/kg dry	4.39	0.837	1	"	"	"	"	"

General Chemistry Parameters

% Solids	31.7			%			1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813700
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.839		mg/kg dry	0.839	0.663	1	SW846 9012B	16-Oct-18	17-Oct-18	RLT	1813785
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Sample Identification

CDW-S36A

SC51047-05

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 14:23

Received

12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 2.20		mg/kg dry	2.20	0.238	1	SW846 6010C	16-Oct-18	18-Oct-18	SC/TBC	1813716	
7440-38-2	Arsenic	28.0		mg/kg dry	2.20	0.279	1	"	"	"	"	"	
7440-39-3	Barium	3,140		mg/kg dry	1.47	0.173	1	"	"	"	"	"	
7440-43-9	Cadmium	8.65		mg/kg dry	0.734	0.0380	1	"	"	"	"	"	
7440-47-3	Chromium	12.2		mg/kg dry	1.47	0.195	1	"	"	"	"	"	
7439-97-6	Mercury	13.5	GS1, D	mg/kg dry	0.864	0.240	20	SW846 7471B	"	17-Oct-18	ABW	1813717	

Prepared by method SW846 3050B

7439-92-1	Lead	12,200	GS1, D	mg/kg dry	11.0	1.56	5	SW846 6010C	"	18-Oct-18	SC/EDT	1813716	
7440-36-0	Antimony	16.9		mg/kg dry	7.34	0.552	1	"	"	18-Oct-18	"	"	
7782-49-2	Selenium	< 2.20		mg/kg dry	2.20	0.420	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	63.1			%			1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813700	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.402		mg/kg dry	0.402	0.318	1	SW846 9012B	16-Oct-18	17-Oct-18	RLT	1813785	
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Sample Identification

CDW-S36B

SC51047-06

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 14:24

Received

12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3050B</u>													
7440-22-4	Silver	< 2.42		mg/kg dry	2.42	0.261	1	SW846 6010C	16-Oct-18	18-Oct-18	SC/TBC	1813716	
7440-38-2	Arsenic	35.4		mg/kg dry	2.42	0.306	1	"	"	"	"	"	
7440-39-3	Barium	3,640		mg/kg dry	1.61	0.190	1	"	"	"	"	"	
7440-43-9	Cadmium	15.5		mg/kg dry	0.805	0.0417	1	"	"	"	"	"	
7440-47-3	Chromium	13.6		mg/kg dry	1.61	0.214	1	"	"	"	"	"	
7439-97-6	Mercury	10.3	GS1, D	mg/kg dry	0.895	0.249	20	SW846 7471B	"	17-Oct-18	ABW	1813717	
<u>Prepared by method SW846 3050B</u>													
7439-92-1	Lead	14,700	GS1, D	mg/kg dry	12.1	1.71	5	SW846 6010C	"	18-Oct-18	SC/EDT	1813716	
7440-36-0	Antimony	15.8		mg/kg dry	8.05	0.606	1	"	"	18-Oct-18	"	"	
7782-49-2	Selenium	< 2.42		mg/kg dry	2.42	0.461	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	61.8		%			1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813700	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.387		mg/kg dry	0.387	0.305	1	SW846 9012B	16-Oct-18	17-Oct-18	RLT	1813785	

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Sample Identification

CDW-S37	<u>Client Project #</u>	<u>Matrix</u>	<u>Collection Date/Time</u>	<u>Received</u>
SC51047-07	1515.20	Soil	09-Oct-18 14:25	12-Oct-18

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 2.11		mg/kg dry	2.11	0.228	1	SW846 6010C	16-Oct-18	18-Oct-18	SC/TBC	1813716
7440-38-2	Arsenic	18.1		mg/kg dry	2.11	0.268	1	"	"	"	"	"
7440-39-3	Barium	454		mg/kg dry	1.41	0.166	1	"	"	"	"	"
7440-43-9	Cadmium	3.48		mg/kg dry	0.705	0.0365	1	"	"	"	"	"
7440-47-3	Chromium	8.25		mg/kg dry	1.41	0.187	1	"	"	"	"	"
7439-97-6	Mercury	11.4	GS1, D	mg/kg dry	0.851	0.236	20	SW846 7471B	"	17-Oct-18	ABW	1813717

Prepared by method SW846 3050B

7439-92-1	Lead	2,620		mg/kg dry	2.11	0.299	1	SW846 6010C	"	18-Oct-18	SC/EDT	1813716
7440-36-0	Antimony	< 7.05		mg/kg dry	7.05	0.530	1	"	"	18-Oct-18	"	"
7782-49-2	Selenium	< 2.11		mg/kg dry	2.11	0.403	1	"	"	"	"	"

General Chemistry Parameters

% Solids	67.0			%			1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813700
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.416		mg/kg dry	0.416	0.329	1	SW846 9012B	16-Oct-18	17-Oct-18	RLT	1813785
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Sample Identification

CDW-S37 Dup

SC51047-08

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 14:25

Received

12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3050B</u>													
7440-22-4	Silver	< 2.12		mg/kg dry	2.12	0.229	1	SW846 6010C	16-Oct-18	18-Oct-18	SC/TBC	1813716	
7440-38-2	Arsenic	3.25		mg/kg dry	2.12	0.269	1	"	"	"	"	"	
7440-39-3	Barium	967		mg/kg dry	1.41	0.167	1	"	"	"	"	"	
7440-43-9	Cadmium	0.820		mg/kg dry	0.707	0.0366	1	"	"	"	"	"	
7440-47-3	Chromium	4.97		mg/kg dry	1.41	0.188	1	"	"	"	"	"	
7439-97-6	Mercury	15.1	GS1, D	mg/kg dry	1.52	0.422	40	SW846 7471B	"	17-Oct-18	ABW	1813717	
<u>Prepared by method SW846 3050B</u>													
7439-92-1	Lead	3,070		mg/kg dry	2.12	0.300	1	SW846 6010C	"	18-Oct-18	SC/EDT	1813716	
7440-36-0	Antimony	< 7.07		mg/kg dry	7.07	0.531	1	"	"	18-Oct-18	"	"	
7782-49-2	Selenium	< 2.12		mg/kg dry	2.12	0.404	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	68.9		%			1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813700	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.397		mg/kg dry	0.397	0.313	1	SW846 9012B	16-Oct-18	17-Oct-18	RLT	1813785	

This laboratory report is not valid without an authorized signature on the cover page.

Sample Identification

CDW-S38A

SC51047-09

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 14:26

Received

12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 1.97		mg/kg dry	1.97	0.213	1	SW846 6010C	16-Oct-18	18-Oct-18	SC/TBC	1813716	
7440-38-2	Arsenic	36.0		mg/kg dry	1.97	0.249	1	"	"	"	"	"	
7440-39-3	Barium	9,350	D, GS1	mg/kg dry	13.1	1.55	10	"	"	18-Oct-18	"	"	
7440-43-9	Cadmium	11.0		mg/kg dry	0.656	0.0340	1	"	"	18-Oct-18	"	"	
7440-47-3	Chromium	26.1		mg/kg dry	1.31	0.175	1	"	"	"	"	"	
7439-97-6	Mercury	30.8	GS1, D	mg/kg dry	1.96	0.544	50	SW846 7471B	"	17-Oct-18	ABW	1813717	

Prepared by method SW846 3050B

7439-92-1	Lead	16,800	GS1, D	mg/kg dry	19.7	2.78	10	SW846 6010C	"	18-Oct-18	SC/EDT	1813716	
7440-36-0	Antimony	18.4		mg/kg dry	6.56	0.494	1	"	"	18-Oct-18	"	"	
7782-49-2	Selenium	< 1.97		mg/kg dry	1.97	0.375	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	73.2		%			1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813700	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.342		mg/kg dry	0.342	0.270	1	SW846 9012B	16-Oct-18	17-Oct-18	RLT	1813785	
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Sample Identification

CDW-S38B

SC51047-10

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 14:27

Received

12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 1.91		mg/kg dry	1.91	0.206	1	SW846 6010C	16-Oct-18	18-Oct-18	SC/TBC	1813716	
7440-38-2	Arsenic	38.2		mg/kg dry	1.91	0.242	1	"	"	"	"	"	
7440-39-3	Barium	7,940	D, GS1	mg/kg dry	12.7	1.50	10	"	"	18-Oct-18	"	"	
7440-43-9	Cadmium	13.5		mg/kg dry	0.636	0.0329	1	"	"	18-Oct-18	"	"	
7440-47-3	Chromium	22.1		mg/kg dry	1.27	0.169	1	"	"	"	"	"	
7439-97-6	Mercury	27.3	GS1, D	mg/kg dry	1.77	0.490	50	SW846 7471B	"	17-Oct-18	ABW	1813717	

Prepared by method SW846 3050B

7439-92-1	Lead	12,500	GS1, D	mg/kg dry	19.1	2.70	10	SW846 6010C	"	18-Oct-18	SC/EDT	1813716	
7440-36-0	Antimony	20.1		mg/kg dry	6.36	0.478	1	"	"	18-Oct-18	"	"	
7782-49-2	Selenium	< 1.91		mg/kg dry	1.91	0.364	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	77.6			%			1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813700	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.441		mg/kg dry	0.441	0.348	1	SW846 9012B	16-Oct-18	17-Oct-18	RLT	1813785	
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Sample Identification

CDW-S39	<u>Client Project #</u>	<u>Matrix</u>	<u>Collection Date/Time</u>	<u>Received</u>
SC51047-11	1515.20	Soil	09-Oct-18 14:29	12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 2.22		mg/kg dry	2.22	0.240	1	SW846 6010C	16-Oct-18	18-Oct-18	SC/TBC	1813716	
7440-38-2	Arsenic	< 2.22		mg/kg dry	2.22	0.282	1	"	"	"	"	"	
7440-39-3	Barium	51.2		mg/kg dry	1.48	0.175	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.741		mg/kg dry	0.741	0.0384	1	"	"	"	"	"	
7440-47-3	Chromium	9.29		mg/kg dry	1.48	0.197	1	"	"	"	"	"	
7439-97-6	Mercury	0.160		mg/kg dry	0.0390	0.0108	1	SW846 7471B	"	17-Oct-18	ABW	1813717	

Prepared by method SW846 3050B

7439-92-1	Lead	42.2		mg/kg dry	2.22	0.314	1	SW846 6010C	"	18-Oct-18	SC/EDT	1813716	
7440-36-0	Antimony	< 7.41		mg/kg dry	7.41	0.557	1	"	"	18-Oct-18	"	"	
7782-49-2	Selenium	< 2.22		mg/kg dry	2.22	0.424	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	66.6			%			1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813700	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.426		mg/kg dry	0.426	0.336	1	SW846 9012B	16-Oct-18	17-Oct-18	RLT	1813785	
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Sample Identification

CDW-S40A

SC51047-12

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 14:30

Received

12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3050B</u>													
7440-22-4	Silver	< 3.55		mg/kg dry	3.55	0.383	1	SW846 6010C	16-Oct-18	18-Oct-18	SC/TBC	1813716	
7440-38-2	Arsenic	54.8		mg/kg dry	3.55	0.450	1	"	"	"	"	"	
7440-39-3	Barium	3,150		mg/kg dry	2.37	0.279	1	"	"	"	"	"	
7440-43-9	Cadmium	4.68		mg/kg dry	1.18	0.0613	1	"	"	"	"	"	
7440-47-3	Chromium	32.9		mg/kg dry	2.37	0.315	1	"	"	"	"	"	
7439-97-6	Mercury	41.0	GS1, D	mg/kg dry	3.73	1.04	50	SW846 7471B	"	17-Oct-18	ABW	1813717	
<u>Prepared by method SW846 3050B</u>													
7439-92-1	Lead	86,400	GS1, D	mg/kg dry	177	25.1	50	SW846 6010C	"	18-Oct-18	SC/EDT	1813716	
7440-36-0	Antimony	627		mg/kg dry	11.8	0.890	1	"	"	18-Oct-18	"	"	
7782-49-2	Selenium	< 3.55		mg/kg dry	3.55	0.677	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	38.5		%			1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813700	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	8.69		mg/kg dry	0.656	0.518	1	SW846 9012B	16-Oct-18	17-Oct-18	RLT	1813785	

Sample Identification

CDW-S40B

SC51047-13

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 14:31

Received

12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 1.89		mg/kg dry	1.89	0.204	1	SW846 6010C	16-Oct-18	18-Oct-18	SC/TBC	1813716	
7440-38-2	Arsenic	8.98		mg/kg dry	1.89	0.239	1	"	"	"	"	"	
7440-39-3	Barium	1,140		mg/kg dry	1.26	0.149	1	"	"	"	"	"	
7440-43-9	Cadmium	2.14		mg/kg dry	0.629	0.0326	1	"	"	"	"	"	
7440-47-3	Chromium	8.42		mg/kg dry	1.26	0.167	1	"	"	"	"	"	
7439-97-6	Mercury	9.55	GS1, D	mg/kg dry	0.699	0.194	20	SW846 7471B	"	17-Oct-18	ABW	1813717	

Prepared by method SW846 3050B

7439-92-1	Lead	4,640		mg/kg dry	1.89	0.267	1	SW846 6010C	"	18-Oct-18	SC/EDT	1813716	
7440-36-0	Antimony	15.2		mg/kg dry	6.29	0.473	1	"	"	18-Oct-18	"	"	
7782-49-2	Selenium	< 1.89		mg/kg dry	1.89	0.360	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	75.0		%			1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813700	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.339		mg/kg dry	0.339	0.268	1	SW846 9012B	16-Oct-18	17-Oct-18	RLT	1813786	
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Sample Identification

CDW-S41

SC51047-14

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 14:36

Received

12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 1.74		mg/kg dry	1.74	0.188	1	SW846 6010C	16-Oct-18	18-Oct-18	SC/TBC	1813716	
7440-38-2	Arsenic	< 1.74		mg/kg dry	1.74	0.221	1	"	"	"	"	"	
7440-39-3	Barium	34.2		mg/kg dry	1.16	0.137	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.581		mg/kg dry	0.581	0.0301	1	"	"	"	"	"	
7440-47-3	Chromium	5.23		mg/kg dry	1.16	0.154	1	"	"	"	"	"	
7439-97-6	Mercury	0.131		mg/kg dry	0.0316	0.0088	1	SW846 7471B	"	17-Oct-18	ABW	1813717	

Prepared by method SW846 3050B

7439-92-1	Lead	96.6		mg/kg dry	1.74	0.246	1	SW846 6010C	"	18-Oct-18	SC/EDT	1813716	
7440-36-0	Antimony	< 5.81		mg/kg dry	5.81	0.437	1	"	"	18-Oct-18	"	"	
7782-49-2	Selenium	< 1.74		mg/kg dry	1.74	0.332	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	83.0		%				1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813700	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.351		mg/kg dry	0.351	0.278	1	SW846 9012B	16-Oct-18	17-Oct-18	RLT	1813786	
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Sample Identification

CDW-S42A

SC51047-15

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 14:38

Received

12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 2.02		mg/kg dry	2.02	0.218	1	SW846 6010C	16-Oct-18	18-Oct-18	SC/TBC	1813716	
7440-38-2	Arsenic	18.3		mg/kg dry	2.02	0.255	1	"	"	"	"	"	
7440-39-3	Barium	1,090		mg/kg dry	1.34	0.159	1	"	"	"	"	"	
7440-43-9	Cadmium	1.92		mg/kg dry	0.672	0.0348	1	"	"	"	"	"	
7440-47-3	Chromium	12.9		mg/kg dry	1.34	0.179	1	"	"	"	"	"	
7439-97-6	Mercury	2.85	GS1, D	mg/kg dry	0.399	0.111	10	SW846 7471B	"	17-Oct-18	ABW	1813717	

Prepared by method SW846 3050B

7439-92-1	Lead	2,230		mg/kg dry	2.02	0.285	1	SW846 6010C	"	18-Oct-18	SC/EDT	1813716	
7440-36-0	Antimony	< 6.72		mg/kg dry	6.72	0.506	1	"	"	18-Oct-18	"	"	
7782-49-2	Selenium	< 2.02		mg/kg dry	2.02	0.385	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	73.5		%				1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813700	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.341		mg/kg dry	0.341	0.270	1	SW846 9012B	16-Oct-18	17-Oct-18	RLT	1813786	
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Sample Identification

CDW-S42B

SC51047-16

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

09-Oct-18 14:40

Received

12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 1.89		mg/kg dry	1.89	0.204	1	SW846 6010C	16-Oct-18	18-Oct-18	SC/TBC	1813716	
7440-38-2	Arsenic	16.4		mg/kg dry	1.89	0.239	1	"	"	"	"	"	
7440-39-3	Barium	854		mg/kg dry	1.26	0.148	1	"	"	"	"	"	
7440-43-9	Cadmium	1.73		mg/kg dry	0.629	0.0326	1	"	"	"	"	"	
7440-47-3	Chromium	12.7		mg/kg dry	1.26	0.167	1	"	"	"	"	"	
7439-97-6	Mercury	2.14	GS1, D	mg/kg dry	0.184	0.0510	5	SW846 7471B	"	17-Oct-18	ABW	1813717	

Prepared by method SW846 3050B

7439-92-1	Lead	1,700		mg/kg dry	1.89	0.267	1	SW846 6010C	"	18-Oct-18	SC/EDT	1813716	
7440-36-0	Antimony	< 6.29		mg/kg dry	6.29	0.473	1	"	"	18-Oct-18	"	"	
7782-49-2	Selenium	< 1.89		mg/kg dry	1.89	0.360	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	78.0		%			1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813700	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.383		mg/kg dry	0.383	0.302	1	SW846 9012B	16-Oct-18	17-Oct-18	RLT	1813786	
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Sample Identification

CDW-S43A

SC51047-17

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

11-Oct-18 09:10

Received

12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3050B</u>													
7440-22-4	Silver	< 2.08		mg/kg dry	2.08	0.224	1	SW846 6010C	16-Oct-18	18-Oct-18	SC/TBC	1813716	
7440-38-2	Arsenic	8.90		mg/kg dry	2.08	0.263	1	"	"	"	"	"	
7440-39-3	Barium	293		mg/kg dry	1.39	0.164	1	"	"	"	"	"	
7440-43-9	Cadmium	2.95		mg/kg dry	0.693	0.0359	1	"	"	"	"	"	
7440-47-3	Chromium	10.8		mg/kg dry	1.39	0.184	1	"	"	"	"	"	
7439-97-6	Mercury	10.9	GS1, D	mg/kg dry	0.807	0.224	20	SW846 7471B	"	17-Oct-18	ABW	1813717	
<u>Prepared by method SW846 3050B</u>													
7439-92-1	Lead	515		mg/kg dry	2.08	0.294	1	SW846 6010C	"	18-Oct-18	SC/EDT	1813716	
7440-36-0	Antimony	< 6.93		mg/kg dry	6.93	0.521	1	"	"	18-Oct-18	"	"	
7782-49-2	Selenium	< 2.08		mg/kg dry	2.08	0.396	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	69.5		%			1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813700	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.365		mg/kg dry	0.365	0.289	1	SW846 9012B	16-Oct-18	17-Oct-18	RLT	1813786	

This laboratory report is not valid without an authorized signature on the cover page.

Sample Identification

CDW-S43B

SC51047-18

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

11-Oct-18 09:12

Received

12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 2.37		mg/kg dry	2.37	0.256	1	SW846 6010C	16-Oct-18	18-Oct-18	SC/TBC	1813716	
7440-38-2	Arsenic	6.04		mg/kg dry	2.37	0.300	1	"	"	"	"	"	
7440-39-3	Barium	308		mg/kg dry	1.58	0.187	1	"	"	"	"	"	
7440-43-9	Cadmium	1.68		mg/kg dry	0.790	0.0409	1	"	"	"	"	"	
7440-47-3	Chromium	11.1		mg/kg dry	1.58	0.210	1	"	"	"	"	"	
7439-97-6	Mercury	7.80	GS1, D	mg/kg dry	0.972	0.270	20	SW846 7471B	"	17-Oct-18	ABW	1813717	

Prepared by method SW846 3050B

7439-92-1	Lead	312		mg/kg dry	2.37	0.335	1	SW846 6010C	"	19-Oct-18	SC/EDT	1813716	
7440-36-0	Antimony	< 7.90		mg/kg dry	7.90	0.594	1	"	"	18-Oct-18	"	"	
7782-49-2	Selenium	< 2.37		mg/kg dry	2.37	0.452	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	60.0		%				1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813700	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.448		mg/kg dry	0.448	0.354	1	SW846 9012B	16-Oct-18	17-Oct-18	RLT	1813786	
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Sample Identification

CDW-S44A

SC51047-19

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

11-Oct-18 09:14

Received

12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3050B</u>													
7440-22-4	Silver	< 2.24		mg/kg dry	2.24	0.241	1	SW846 6010C	16-Oct-18	18-Oct-18	SC/TBC	1813716	
7440-38-2	Arsenic	3.23		mg/kg dry	2.24	0.283	1	"	"	"	"	"	
7440-39-3	Barium	80.4		mg/kg dry	1.49	0.176	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.745		mg/kg dry	0.745	0.0386	1	"	"	"	"	"	
7440-47-3	Chromium	10.5		mg/kg dry	1.49	0.198	1	"	"	"	"	"	
7439-97-6	Mercury	1.86	GS1, D	mg/kg dry	0.230	0.0639	5	SW846 7471B	"	17-Oct-18	ABW	1813717	
<u>Prepared by method SW846 3050B</u>													
7439-92-1	Lead	84.4		mg/kg dry	2.24	0.316	1	SW846 6010C	"	19-Oct-18	SC/EDT	1813716	
7440-36-0	Antimony	< 7.45		mg/kg dry	7.45	0.560	1	"	"	18-Oct-18	"	"	
7782-49-2	Selenium	< 2.24		mg/kg dry	2.24	0.426	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	64.7		%			1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813700	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.401		mg/kg dry	0.401	0.317	1	SW846 9012B	16-Oct-18	17-Oct-18	RLT	1813786	

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Sample Identification

CDW-S44B

SC51047-20

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

11-Oct-18 09:15

Received

12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 1.91		mg/kg dry	1.91	0.206	1	SW846 6010C	16-Oct-18	18-Oct-18	SC/TBC	1813716	
7440-38-2	Arsenic	3.16		mg/kg dry	1.91	0.242	1	"	"	"	"	"	
7440-39-3	Barium	70.7		mg/kg dry	1.27	0.150	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.637		mg/kg dry	0.637	0.0330	1	"	"	"	"	"	
7440-47-3	Chromium	12.3		mg/kg dry	1.27	0.169	1	"	"	"	"	"	
7439-97-6	Mercury	1.16	GS1, D	mg/kg dry	0.0737	0.0205	2	SW846 7471B	"	17-Oct-18	ABW	1813717	

Prepared by method SW846 3050B

7439-92-1	Lead	36.6		mg/kg dry	1.91	0.270	1	SW846 6010C	"	19-Oct-18	SC/EDT	1813716	
7440-36-0	Antimony	< 6.37		mg/kg dry	6.37	0.479	1	"	"	18-Oct-18	"	"	
7782-49-2	Selenium	< 1.91		mg/kg dry	1.91	0.364	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	71.4		%			1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813700	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.358		mg/kg dry	0.358	0.283	1	SW846 9012B	16-Oct-18	17-Oct-18	RLT	1813786	
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Sample Identification

CDW-S45A

SC51047-21

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

11-Oct-18 09:16

Received

12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 1.80		mg/kg dry	1.80	0.194	1	SW846 6010C	17-Oct-18	19-Oct-18	SC/EDT	1813797	
7440-38-2	Arsenic	9.81		mg/kg dry	1.80	0.227	1	"	"	"	"	"	
7440-39-3	Barium	427		mg/kg dry	1.20	0.141	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.598		mg/kg dry	0.598	0.0310	1	"	"	"	"	"	
7440-47-3	Chromium	6.80		mg/kg dry	1.20	0.159	1	"	"	"	"	"	
7439-97-6	Mercury	4.23	GS1, D	mg/kg dry	0.718	0.199	20	SW846 7471B	"	18-Oct-18	TBC	1813798	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	435		mg/kg dry	1.80	0.254	1	SW846 6010C	"	19-Oct-18	SC/EDT	1813797	
7440-36-0	Antimony	7.39		mg/kg dry	5.98	0.450	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.80		mg/kg dry	1.80	0.342	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	81.6		%			1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813701	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.309		mg/kg dry	0.309	0.244	1	SW846 9012B	16-Oct-18	17-Oct-18	RLT	1813786	

Sample Identification

CDW-S45B

SC51047-22

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

11-Oct-18 09:17

Received

12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 2.12		mg/kg dry	2.12	0.229	1	SW846 6010C	17-Oct-18	19-Oct-18	SC/EDT	1813797	
7440-38-2	Arsenic	3.47		mg/kg dry	2.12	0.268	1	"	"	"	"	"	
7440-39-3	Barium	140		mg/kg dry	1.41	0.167	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.706		mg/kg dry	0.706	0.0366	1	"	"	"	"	"	
7440-47-3	Chromium	7.76		mg/kg dry	1.41	0.188	1	"	"	"	"	"	
7439-97-6	Mercury	1.81	GS1, D	mg/kg dry	0.197	0.0547	5	SW846 7471B	"	18-Oct-18	TBC	1813798	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	91.4		mg/kg dry	2.12	0.299	1	SW846 6010C	"	19-Oct-18	SC/EDT	1813797	
7440-36-0	Antimony	< 7.06		mg/kg dry	7.06	0.531	1	"	"	"	"	"	
7782-49-2	Selenium	< 2.12		mg/kg dry	2.12	0.404	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	69.6		%			1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813701	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.408		mg/kg dry	0.408	0.322	1	SW846 9012B	16-Oct-18	17-Oct-18	RLT	1813786	

Sample Identification

CDW-S46A

SC51047-23

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

11-Oct-18 09:19

Received

12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.64		mg/kg dry	1.64	0.178	1	SW846 6010C	17-Oct-18	19-Oct-18	SC/EDT	1813797	
7440-38-2	Arsenic	2.84		mg/kg dry	1.64	0.208	1	"	"	"	"	"	
7440-39-3	Barium	492		mg/kg dry	1.10	0.129	1	"	"	"	"	"	
7440-43-9	Cadmium	1.53		mg/kg dry	0.548	0.0284	1	"	"	"	"	"	
7440-47-3	Chromium	5.38		mg/kg dry	1.10	0.146	1	"	"	"	"	"	
7439-97-6	Mercury	1.79	GS1, D	mg/kg dry	0.160	0.0444	5	SW846 7471B	"	18-Oct-18	TBC	1813798	

Prepared by method SW846 3051A

7439-92-1	Lead	221		mg/kg dry	1.64	0.232	1	SW846 6010C	"	19-Oct-18	SC/EDT	1813797	
7440-36-0	Antimony	< 5.48		mg/kg dry	5.48	0.412	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.64		mg/kg dry	1.64	0.314	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	86.2		%			1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813701	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	0.317		mg/kg dry	0.304	0.240	1	SW846 9012B	16-Oct-18	17-Oct-18	RLT	1813786	
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Sample Identification

CDW-S46B

SC51047-24

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

11-Oct-18 09:20

Received

12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.92		mg/kg dry	1.92	0.208	1	SW846 6010C	17-Oct-18	19-Oct-18	SC/EDT	1813797	
7440-38-2	Arsenic	4.37		mg/kg dry	1.92	0.244	1	"	"	"	"	"	
7440-39-3	Barium	216		mg/kg dry	1.28	0.151	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.641		mg/kg dry	0.641	0.0332	1	"	"	"	"	"	
7440-47-3	Chromium	6.72		mg/kg dry	1.28	0.171	1	"	"	"	"	"	
7439-97-6	Mercury	2.69	GS1, D	mg/kg dry	0.184	0.0510	5	SW846 7471B	"	18-Oct-18	TBC	1813798	

Prepared by method SW846 3051A

7439-92-1	Lead	335		mg/kg dry	1.92	0.272	1	SW846 6010C	"	19-Oct-18	SC/EDT	1813797	
7440-36-0	Antimony	< 6.41		mg/kg dry	6.41	0.482	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.92		mg/kg dry	1.92	0.367	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	77.4			%			1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813701	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.338		mg/kg dry	0.338	0.267	1	SW846 9012B	16-Oct-18	17-Oct-18	RLT	1813786	
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Sample Identification

CDW-S47A

SC51047-25

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

11-Oct-18 09:23

Received

12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.71		mg/kg dry	1.71	0.184	1	SW846 6010C	17-Oct-18	19-Oct-18	SC/EDT	1813797	
7440-38-2	Arsenic	2.21		mg/kg dry	1.71	0.216	1	"	"	"	"	"	
7440-39-3	Barium	1,210		mg/kg dry	1.14	0.134	1	"	"	"	"	"	
7440-43-9	Cadmium	1.36		mg/kg dry	0.569	0.0295	1	"	"	"	"	"	
7440-47-3	Chromium	5.95		mg/kg dry	1.14	0.151	1	"	"	"	"	"	
7439-97-6	Mercury	1.04	GS1, D	mg/kg dry	0.158	0.0438	5	SW846 7471B	"	18-Oct-18	TBC	1813798	

Prepared by method SW846 3051A

7439-92-1	Lead	394		mg/kg dry	1.71	0.241	1	SW846 6010C	"	19-Oct-18	SC/EDT	1813797	
7440-36-0	Antimony	20.8		mg/kg dry	5.69	0.428	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.71		mg/kg dry	1.71	0.325	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	81.7		%			1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813701	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.318		mg/kg dry	0.318	0.251	1	SW846 9012B	18-Oct-18	18-Oct-18	RLT	1813861	
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Sample Identification

CDW-S47B

SC51047-26

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

11-Oct-18 09:24

Received

12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.85		mg/kg dry	1.85	0.200	1	SW846 6010C	17-Oct-18	19-Oct-18	SC/EDT	1813797	
7440-38-2	Arsenic	5.23		mg/kg dry	1.85	0.234	1	"	"	"	"	"	
7440-39-3	Barium	1,680		mg/kg dry	1.23	0.146	1	"	"	"	"	"	
7440-43-9	Cadmium	4.85		mg/kg dry	0.617	0.0319	1	"	"	"	"	"	
7440-47-3	Chromium	10.8		mg/kg dry	1.23	0.164	1	"	"	"	"	"	
7439-97-6	Mercury	3.98	GS1, D	mg/kg dry	0.374	0.104	10	SW846 7471B	"	18-Oct-18	TBC	1813798	

Prepared by method SW846 3051A

7439-92-1	Lead	632		mg/kg dry	1.85	0.261	1	SW846 6010C	"	19-Oct-18	SC/EDT	1813797	
7440-36-0	Antimony	14.9		mg/kg dry	6.17	0.464	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.85		mg/kg dry	1.85	0.353	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	74.8		%			1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813701	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.387		mg/kg dry	0.387	0.306	1	SW846 9012B	18-Oct-18	18-Oct-18	RLT	1813861	
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Sample Identification

CDW-S48	<u>Client Project #</u>	<u>Matrix</u>	<u>Collection Date/Time</u>	<u>Received</u>
SC51047-27	1515.20	Soil	11-Oct-18 09:25	12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.94		mg/kg dry	1.94	0.210	1	SW846 6010C	17-Oct-18	19-Oct-18	SC/EDT	1813797	
7440-38-2	Arsenic	2.24		mg/kg dry	1.94	0.246	1	"	"	"	"	"	
7440-39-3	Barium	56.7		mg/kg dry	1.29	0.153	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.647		mg/kg dry	0.647	0.0335	1	"	"	"	"	"	
7440-47-3	Chromium	7.02		mg/kg dry	1.29	0.172	1	"	"	"	"	"	
7439-97-6	Mercury	0.363		mg/kg dry	0.0393	0.0109	1	SW846 7471B	"	18-Oct-18	TBC	1813798	

Prepared by method SW846 3051A

7439-92-1	Lead	67.5		mg/kg dry	1.94	0.274	1	SW846 6010C	"	19-Oct-18	SC/EDT	1813797	
7440-36-0	Antimony	< 6.47		mg/kg dry	6.47	0.487	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.94		mg/kg dry	1.94	0.370	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	73.1			%			1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813701	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.346		mg/kg dry	0.346	0.273	1	SW846 9012B	18-Oct-18	18-Oct-18	RLT	1813861	
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Sample Identification

CDW-S48 Dup

SC51047-28

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

11-Oct-18 09:25

Received

12-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 2.12		mg/kg dry	2.12	0.229	1	SW846 6010C	17-Oct-18	19-Oct-18	SC/EDT	1813797	
7440-38-2	Arsenic	2.52		mg/kg dry	2.12	0.269	1	"	"	"	"	"	
7440-39-3	Barium	60.2		mg/kg dry	1.42	0.167	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.708		mg/kg dry	0.708	0.0367	1	"	"	"	"	"	
7440-47-3	Chromium	7.81		mg/kg dry	1.42	0.188	1	"	"	"	"	"	
7439-97-6	Mercury	0.574		mg/kg dry	0.0389	0.0108	1	SW846 7471B	"	18-Oct-18	TBC	1813798	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	82.7		mg/kg dry	2.12	0.300	1	SW846 6010C	"	19-Oct-18	SC/EDT	1813797	
7440-36-0	Antimony	< 7.08		mg/kg dry	7.08	0.533	1	"	"	"	"	"	
7782-49-2	Selenium	< 2.12		mg/kg dry	2.12	0.405	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	70.3		%			1	SM2540 G (11) Mod.	15-Oct-18	15-Oct-18	BD	1813701	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.485		mg/kg dry	0.485	0.383	1	SW846 9012B	18-Oct-18	18-Oct-18	RLT	1813861	

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW846 6010C</u>										
Batch 1813716 - SW846 3050B										
<u>Blank (1813716-BLK1)</u>					<u>Prepared: 16-Oct-18 Analyzed: 18-Oct-18</u>					
Silver	< 1.42		mg/kg wet	1.42						
Arsenic	< 1.42		mg/kg wet	1.42						
Cadmium	< 0.474		mg/kg wet	0.474						
Chromium	< 0.947		mg/kg wet	0.947						
Antimony	< 4.74		mg/kg wet	4.74						
Selenium	< 1.42		mg/kg wet	1.42						
Lead	< 1.42		mg/kg wet	1.42						
Barium	< 0.947		mg/kg wet	0.947						
<u>Duplicate (1813716-DUP1)</u>					<u>Source: SC51047-01 Prepared: 16-Oct-18 Analyzed: 18-Oct-18</u>					
Arsenic	1.64	J	mg/kg dry	1.98		1.83			11	20
Lead	12.9		mg/kg dry	1.98		12.8			0.4	20
Selenium	0.448	J	mg/kg dry	1.98		BRL				20
Antimony	< 6.59		mg/kg dry	6.59		BRL				20
Chromium	8.42		mg/kg dry	1.32		8.32			1	20
Cadmium	0.325	J,QR8	mg/kg dry	0.659		0.442			30	20
Silver	< 1.98		mg/kg dry	1.98		BRL				20
Barium	69.7		mg/kg dry	1.32		72.5			4	20
<u>Matrix Spike (1813716-MS1)</u>					<u>Source: SC51047-01 Prepared: 16-Oct-18 Analyzed: 18-Oct-18</u>					
Lead	165		mg/kg dry	1.89	158	12.8	97	75-125		
Antimony	104	QM8	mg/kg dry	6.30	158	BRL	66	75-125		
Silver	129		mg/kg dry	1.89	158	BRL	82	75-125		
Arsenic	131		mg/kg dry	1.89	158	1.83	82	75-125		
Chromium	152		mg/kg dry	1.26	158	8.32	91	75-125		
Selenium	125		mg/kg dry	1.89	158	0.361	79	75-125		
Cadmium	130		mg/kg dry	0.630	158	0.442	82	75-125		
Barium	221		mg/kg dry	1.26	158	72.5	94	75-125		
<u>Matrix Spike Dup (1813716-MSD1)</u>					<u>Source: SC51047-01 Prepared: 16-Oct-18 Analyzed: 18-Oct-18</u>					
Antimony	104	QM8	mg/kg dry	6.30	158	BRL	66	75-125	0.3	20
Selenium	128		mg/kg dry	1.89	158	0.361	81	75-125	3	20
Lead	166		mg/kg dry	1.89	158	12.8	97	75-125	0.6	20
Cadmium	131		mg/kg dry	0.630	158	0.442	83	75-125	0.7	20
Arsenic	133		mg/kg dry	1.89	158	1.83	84	75-125	2	20
Silver	128		mg/kg dry	1.89	158	BRL	81	75-125	0.8	20
Chromium	151		mg/kg dry	1.26	158	8.32	91	75-125	0.5	20
Barium	219		mg/kg dry	1.26	158	72.5	93	75-125	1	20
<u>Post Spike (1813716-PS1)</u>					<u>Source: SC51047-01 Prepared: 16-Oct-18 Analyzed: 18-Oct-18</u>					
Cadmium	148		mg/kg dry	0.669	167	0.442	88	80-120		
Chromium	165		mg/kg dry	1.34	167	8.32	94	80-120		
Arsenic	148		mg/kg dry	2.01	167	1.83	88	80-120		
Lead	180		mg/kg dry	2.01	167	12.8	100	80-120		
Selenium	145		mg/kg dry	2.01	167	BRL	86	80-120		
Antimony	146		mg/kg dry	6.69	167	BRL	87	80-120		
Barium	222		mg/kg dry	1.34	167	72.5	90	80-120		
<u>Reference (1813716-SRM1)</u>					<u>Prepared: 16-Oct-18 Analyzed: 18-Oct-18</u>					
Arsenic	68.6		mg/kg wet	1.50	81.8		84	83.2-116.8		
Selenium	79.1		mg/kg wet	1.50	97.1		81	79.6-120.9		
Silver	18.2		mg/kg wet	1.50	22.0		83	79.9-119.9		

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Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW846 6010C</u>										
Batch 1813716 - SW846 3050B										
<u>Reference (1813716-SRM1)</u>					<u>Prepared: 16-Oct-18 Analyzed: 18-Oct-18</u>					
Cadmium	93.7		mg/kg wet	0.500	107		87	83.4-116.6		
Antimony	16.2		mg/kg wet	5.00	38.4		42	25-196		
Lead	54.3		mg/kg wet	1.50	56.4		96	83-117.1		
Chromium	63.7		mg/kg wet	1.00	69.1		92	82.4-117.6		
Barium	117		mg/kg wet	1.00	132		88	82.7-117.3		
<u>Reference (1813716-SRM2)</u>					<u>Prepared: 16-Oct-18 Analyzed: 18-Oct-18</u>					
Silver	18.0		mg/kg wet	1.50	22.0		82	79.9-119.9		
Arsenic	69.9		mg/kg wet	1.50	81.7		86	83.2-116.8		
Cadmium	93.4		mg/kg wet	0.500	107		87	83.4-116.6		
Chromium	63.6		mg/kg wet	1.00	69.0		92	82.4-117.6		
Antimony	16.4		mg/kg wet	5.00	38.3		43	25-196		
Selenium	82.0		mg/kg wet	1.50	97.0		85	79.6-120.9		
Lead	55.6		mg/kg wet	1.50	56.3		99	83-117.1		
Barium	122		mg/kg wet	1.00	132		92	82.7-117.3		
Batch 1813797 - SW846 3051A										
<u>Blank (1813797-BLK1)</u>					<u>Prepared: 17-Oct-18 Analyzed: 19-Oct-18</u>					
Antimony	< 4.84		mg/kg wet	4.84						
Lead	< 1.45		mg/kg wet	1.45						
Chromium	< 0.967		mg/kg wet	0.967						
Cadmium	< 0.484		mg/kg wet	0.484						
Arsenic	< 1.45		mg/kg wet	1.45						
Silver	< 1.45		mg/kg wet	1.45						
Selenium	< 1.45		mg/kg wet	1.45						
Barium	< 0.967		mg/kg wet	0.967						
<u>Duplicate (1813797-DUP1)</u>					<u>Source: SC51047-21</u>	<u>Prepared: 17-Oct-18 Analyzed: 19-Oct-18</u>				
Chromium	6.45		mg/kg dry	1.20		6.80			5	20
Cadmium	0.307	J,QR8	mg/kg dry	0.598		0.191			47	20
Silver	< 1.79		mg/kg dry	1.79		BRL				20
Lead	839	QM4	mg/kg dry	1.79		435			63	20
Antimony	5.43	J,QR8	mg/kg dry	5.98		7.39			31	20
Selenium	0.927	J	mg/kg dry	1.79		0.981			6	20
Arsenic	7.40	QR8	mg/kg dry	1.79		9.81			28	20
Barium	571	QR9	mg/kg dry	1.20		427			29	20
<u>Matrix Spike (1813797-MS1)</u>					<u>Source: SC51047-21</u>	<u>Prepared: 17-Oct-18 Analyzed: 19-Oct-18</u>				
Arsenic	146		mg/kg dry	1.81	151	9.81	90	75-125		
Silver	112	QM7	mg/kg dry	1.81	151	BRL	74	75-125		
Cadmium	141		mg/kg dry	0.604	151	0.191	94	75-125		
Chromium	145		mg/kg dry	1.21	151	6.80	91	75-125		
Lead	436	QM6	mg/kg dry	1.81	151	435	0.7	75-125		
Selenium	139		mg/kg dry	1.81	151	0.981	91	75-125		
Antimony	145		mg/kg dry	6.04	151	7.39	91	75-125		
Barium	402	QM8	mg/kg dry	1.21	151	427	-17	75-125		
<u>Matrix Spike Dup (1813797-MSD1)</u>					<u>Source: SC51047-21</u>	<u>Prepared: 17-Oct-18 Analyzed: 19-Oct-18</u>				
Arsenic	147		mg/kg dry	1.79	150	9.81	92	75-125	1	20

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Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW846 6010C</u>										
Batch 1813797 - SW846 3051A										
<u>Matrix Spike Dup (1813797-MSD1)</u>				<u>Source: SC51047-21</u>		<u>Prepared: 17-Oct-18 Analyzed: 19-Oct-18</u>				
Cadmium	141		mg/kg dry	0.598	150	0.191	94	75-125	0.1	20
Selenium	140		mg/kg dry	1.79	150	0.981	93	75-125	0.7	20
Antimony	145		mg/kg dry	5.98	150	7.39	92	75-125	0.2	20
Lead	415	QM6	mg/kg dry	1.79	150	435	-13	75-125	5	20
Silver	110	QM7	mg/kg dry	1.79	150	BRL	74	75-125	1	20
Chromium	149		mg/kg dry	1.20	150	6.80	95	75-125	3	20
Barium	431	QM8	mg/kg dry	1.20	150	427	2	75-125	7	20
<u>Post Spike (1813797-PS1)</u>				<u>Source: SC51047-21</u>		<u>Prepared: 17-Oct-18 Analyzed: 19-Oct-18</u>				
Cadmium	139		mg/kg dry	0.598	150	0.191	93	80-120		
Chromium	148		mg/kg dry	1.20	150	6.80	94	80-120		
Selenium	142		mg/kg dry	1.80	150	0.981	94	80-120		
Antimony	147		mg/kg dry	5.98	150	7.39	93	80-120		
Arsenic	150		mg/kg dry	1.80	150	9.81	94	80-120		
Lead	544	QM6	mg/kg dry	1.80	150	435	73	80-120		
Barium	550		mg/kg dry	1.20	150	427	82	80-120		
<u>Reference (1813797-SRM1)</u>				<u>Prepared: 17-Oct-18 Analyzed: 19-Oct-18</u>						
Cadmium	117		mg/kg wet	0.500	106		111	83.4-116.6		
Chromium	67.6		mg/kg wet	1.00	68.1		99	82.4-117.6		
Lead	54.2		mg/kg wet	1.50	55.5		98	83-117.1		
Silver	20.9		mg/kg wet	1.50	21.7		96	79.9-119.9		
Antimony	65.1		mg/kg wet	5.00	37.8		172	25-196		
Selenium	103		mg/kg wet	1.50	95.6		108	79.6-120.9		
Arsenic	83.1		mg/kg wet	1.50	80.6		103	83.2-116.8		
Barium	129		mg/kg wet	1.00	130		99	82.7-117.3		
<u>Reference (1813797-SRM2)</u>				<u>Prepared: 17-Oct-18 Analyzed: 19-Oct-18</u>						
Silver	18.8		mg/kg wet	1.50	21.7		87	79.9-119.9		
Antimony	56.9		mg/kg wet	5.00	37.9		150	25-196		
Lead	50.2		mg/kg wet	1.50	55.7		90	83-117.1		
Chromium	61.2		mg/kg wet	1.00	68.2		90	82.4-117.6		
Cadmium	106		mg/kg wet	0.500	106		100	83.4-116.6		
Arsenic	75.2		mg/kg wet	1.50	80.8		93	83.2-116.8		
Selenium	90.8		mg/kg wet	1.50	95.8		95	79.6-120.9		
Barium	115		mg/kg wet	1.00	130		88	82.7-117.3		
<u>SW846 7471B</u>										
Batch 1813717 - EPA200/SW7000 Series										
<u>Blank (1813717-BLK1)</u>				<u>Prepared: 16-Oct-18 Analyzed: 17-Oct-18</u>						
Mercury	< 0.0291		mg/kg wet	0.0291						
<u>Duplicate (1813717-DUP1)</u>				<u>Source: SC51047-01</u>		<u>Prepared: 16-Oct-18 Analyzed: 17-Oct-18</u>				
Mercury	0.0655		mg/kg dry	0.0372		0.0716			9	20
<u>Matrix Spike (1813717-MS1)</u>				<u>Source: SC51047-01</u>		<u>Prepared: 16-Oct-18 Analyzed: 17-Oct-18</u>				
Mercury	0.368		mg/kg dry	0.0369	0.256	0.0716	116	75-125		

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Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW846 7471B</u>										
Batch 1813717 - EPA200/SW7000 Series										
<u>Matrix Spike Dup (1813717-MSD1)</u>								<u>Prepared: 16-Oct-18 Analyzed: 17-Oct-18</u>		
Mercury	0.376		mg/kg dry	0.0354	0.246	0.0716	124	75-125	2	20
<u>Post Spike (1813717-PS1)</u>								<u>Prepared: 16-Oct-18 Analyzed: 17-Oct-18</u>		
Mercury	0.357		mg/kg dry	0.0350	0.243	0.0716	117	80-120		
<u>Reference (1813717-SRM1)</u>								<u>Prepared: 16-Oct-18 Analyzed: 17-Oct-18</u>		
Mercury	4.94	D	mg/kg wet	0.600	3.88		127	71.6-128		
Batch 1813798 - EPA200/SW7000 Series										
<u>Blank (1813798-BLK1)</u>								<u>Prepared: 17-Oct-18 Analyzed: 18-Oct-18</u>		
Mercury	< 0.0292		mg/kg wet	0.0292						
<u>Duplicate (1813798-DUP1)</u>								<u>Prepared: 17-Oct-18 Analyzed: 18-Oct-18</u>		
Mercury	2.15	GS1, QM2, D	mg/kg dry	0.363		4.23			65	20
<u>Matrix Spike (1813798-MS1)</u>								<u>Prepared: 17-Oct-18 Analyzed: 18-Oct-18</u>		
Mercury	6.32	QM2, D	mg/kg dry	0.704	0.244	4.23	855	75-125		
<u>Matrix Spike Dup (1813798-MSD1)</u>								<u>Prepared: 17-Oct-18 Analyzed: 18-Oct-18</u>		
Mercury	3.64	QM2, D	mg/kg dry	0.719	0.250	4.23	-238	75-125	54	20
<u>Post Spike (1813798-PS1)</u>								<u>Prepared: 17-Oct-18 Analyzed: 18-Oct-18</u>		
Mercury	10.4	QM2, D	mg/kg dry	0.718	4.99	4.23	123	80-120		
<u>Reference (1813798-SRM1)</u>								<u>Prepared: 17-Oct-18 Analyzed: 18-Oct-18</u>		
Mercury	3.55	D	mg/kg wet	0.600	3.90		91	71.6-128		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SM2540 G (11) Mod.</u>										
Batch 1813700 - General Preparation										
<u>Duplicate (1813700-DUP1)</u>						<u>Source: SC51047-01</u>		<u>Prepared & Analyzed: 15-Oct-18</u>		
% Solids	75.5		%			74.4			1	5
<u>Duplicate (1813700-DUP2)</u>						<u>Source: SC51047-02</u>		<u>Prepared & Analyzed: 15-Oct-18</u>		
% Solids	81.0		%			80.1			1	5
Batch 1813701 - General Preparation										
<u>Duplicate (1813701-DUP1)</u>						<u>Source: SC51047-21</u>		<u>Prepared & Analyzed: 15-Oct-18</u>		
% Solids	80.2		%			81.6			2	5
<u>Duplicate (1813701-DUP2)</u>						<u>Source: SC51047-22</u>		<u>Prepared & Analyzed: 15-Oct-18</u>		
% Solids	69.1		%			69.6			0.7	5
<u>SW846 9012B</u>										
Batch 1813785 - General Preparation										
<u>Blank (1813785-BLK1)</u>								<u>Prepared: 16-Oct-18 Analyzed: 17-Oct-18</u>		
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>Blank (1813785-BLK2)</u>								<u>Prepared: 16-Oct-18 Analyzed: 17-Oct-18</u>		
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>LCS (1813785-BS1)</u>								<u>Prepared: 16-Oct-18 Analyzed: 17-Oct-18</u>		
Cyanide (total)	26.0		mg/kg wet	0.500	25.0	104	90-110			
<u>LCS (1813785-BS2)</u>								<u>Prepared: 16-Oct-18 Analyzed: 17-Oct-18</u>		
Cyanide (total)	24.5		mg/kg wet	0.500	25.0	98	90-110			
<u>Calibration Blank (1813785-CCB1)</u>								<u>Prepared: 16-Oct-18 Analyzed: 17-Oct-18</u>		
Cyanide (total)	0.00114		mg/kg wet							
<u>Calibration Blank (1813785-CCB2)</u>								<u>Prepared: 16-Oct-18 Analyzed: 17-Oct-18</u>		
Cyanide (total)	-0.000976		mg/kg wet							
<u>Calibration Blank (1813785-CCB3)</u>								<u>Prepared: 16-Oct-18 Analyzed: 17-Oct-18</u>		
Cyanide (total)	0.000768		mg/kg wet							
<u>Calibration Check (1813785-CCV1)</u>								<u>Prepared: 16-Oct-18 Analyzed: 17-Oct-18</u>		
Cyanide (total)	25.7		mg/kg wet	0.500	25.0	103	90-110			
<u>Calibration Check (1813785-CCV2)</u>								<u>Prepared: 16-Oct-18 Analyzed: 17-Oct-18</u>		
Cyanide (total)	25.4		mg/kg wet	0.500	25.0	102	90-110			
<u>Calibration Check (1813785-CCV3)</u>								<u>Prepared: 16-Oct-18 Analyzed: 17-Oct-18</u>		
Cyanide (total)	25.6		mg/kg wet	0.500	25.0	102	90-110			
<u>Duplicate (1813785-DUP1)</u>						<u>Source: SC51047-01</u>		<u>Prepared: 16-Oct-18 Analyzed: 17-Oct-18</u>		
Cyanide (total)	< 0.358		mg/kg dry	0.358		BRL				35
<u>Matrix Spike (1813785-MS1)</u>						<u>Source: SC51047-01</u>		<u>Prepared: 16-Oct-18 Analyzed: 17-Oct-18</u>		
Cyanide (total)	15.8		mg/kg dry	0.333	16.7	BRL	95	90-110		
<u>Matrix Spike Dup (1813785-MSD1)</u>						<u>Source: SC51047-01</u>		<u>Prepared: 16-Oct-18 Analyzed: 17-Oct-18</u>		
Cyanide (total)	17.9		mg/kg dry	0.377	18.8	BRL	95	90-110	12	35
<u>Reference (1813785-SRM1)</u>								<u>Prepared: 16-Oct-18 Analyzed: 17-Oct-18</u>		
Cyanide (total)	90.6		mg/kg wet	1.90	94.3	96	22.3-116			
Batch 1813786 - General Preparation										
<u>Blank (1813786-BLK1)</u>								<u>Prepared: 16-Oct-18 Analyzed: 17-Oct-18</u>		
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>Blank (1813786-BLK2)</u>								<u>Prepared: 16-Oct-18 Analyzed: 17-Oct-18</u>		
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>LCS (1813786-BS1)</u>								<u>Prepared: 16-Oct-18 Analyzed: 17-Oct-18</u>		
Cyanide (total)	27.4		mg/kg wet	0.500	25.0	110	90-110			
<u>LCS (1813786-BS2)</u>								<u>Prepared: 16-Oct-18 Analyzed: 17-Oct-18</u>		
Cyanide (total)	23.7		mg/kg wet	0.500	25.0	95	90-110			

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General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW846 9012B										
Batch 1813786 - General Preparation										
Calibration Blank (1813786-CCB1)										Prepared: 16-Oct-18 Analyzed: 17-Oct-18
Cyanide (total)	0.000768		mg/kg wet							
Calibration Blank (1813786-CCB2)										Prepared: 16-Oct-18 Analyzed: 17-Oct-18
Cyanide (total)	0.000532		mg/kg wet							
Calibration Blank (1813786-CCB3)										Prepared: 16-Oct-18 Analyzed: 17-Oct-18
Cyanide (total)	0.000302		mg/kg wet							
Calibration Blank (1813786-CCB4)										Prepared: 16-Oct-18 Analyzed: 17-Oct-18
Cyanide (total)	0.000409		mg/kg wet							
Calibration Check (1813786-CCV1)										Prepared: 16-Oct-18 Analyzed: 17-Oct-18
Cyanide (total)	25.6		mg/kg wet	0.500	25.0		102	90-110		
Calibration Check (1813786-CCV2)										Prepared: 16-Oct-18 Analyzed: 17-Oct-18
Cyanide (total)	25.6		mg/kg wet	0.500	25.0		102	90-110		
Calibration Check (1813786-CCV3)										Prepared: 16-Oct-18 Analyzed: 17-Oct-18
Cyanide (total)	25.6		mg/kg wet	0.500	25.0		102	90-110		
Calibration Check (1813786-CCV4)										Prepared: 16-Oct-18 Analyzed: 17-Oct-18
Cyanide (total)	25.6		mg/kg wet	0.500	25.0		102	90-110		
Duplicate (1813786-DUP1)										Prepared: 16-Oct-18 Analyzed: 17-Oct-18
Cyanide (total)	< 0.361		mg/kg dry	0.361		BRL				35
MRL Check (1813786-MRL1)										Prepared: 16-Oct-18 Analyzed: 17-Oct-18
Cyanide (total)	1.72		mg/kg wet	0.500	2.00		86	70-130		
Matrix Spike (1813786-MS1)										Prepared: 16-Oct-18 Analyzed: 17-Oct-18
Cyanide (total)	12.8	QM1	mg/kg dry	0.391	19.6	BRL	65	90-110		
Matrix Spike Dup (1813786-MSD1)										Prepared: 16-Oct-18 Analyzed: 17-Oct-18
Cyanide (total)	15.8	QM1	mg/kg dry	0.412	20.6	BRL	77	90-110	22	35
Post Spike (1813786-PS1)										Prepared: 16-Oct-18 Analyzed: 17-Oct-18
Cyanide (total)	0.270		mg/l		0.250	0.00144	107	75-125		
Reference (1813786-SRM1)										Prepared: 16-Oct-18 Analyzed: 17-Oct-18
Cyanide (total)	81.8		mg/kg wet	1.63	94.3		87	22.3-116		
Batch 1813861 - General Preparation										
Blank (1813861-BLK1)										Prepared & Analyzed: 18-Oct-18
Cyanide (total)	< 0.500		mg/kg wet	0.500						
LCS (1813861-BS1)										Prepared & Analyzed: 18-Oct-18
Cyanide (total)	26.9		mg/kg wet	0.500	25.0		108	90-110		
Calibration Blank (1813861-CCB1)										Prepared & Analyzed: 18-Oct-18
Cyanide (total)	0.000448		mg/kg wet							
Calibration Blank (1813861-CCB2)										Prepared & Analyzed: 18-Oct-18
Cyanide (total)	0.000221		mg/kg wet							
Calibration Blank (1813861-CCB3)										Prepared & Analyzed: 18-Oct-18
Cyanide (total)	0.000209		mg/kg wet							
Calibration Check (1813861-CCV1)										Prepared & Analyzed: 18-Oct-18
Cyanide (total)	25.4		mg/kg wet	0.500	25.0		102	90-110		
Calibration Check (1813861-CCV2)										Prepared & Analyzed: 18-Oct-18
Cyanide (total)	25.6		mg/kg wet	0.500	25.0		102	90-110		
Calibration Check (1813861-CCV3)										Prepared & Analyzed: 18-Oct-18
Cyanide (total)	25.4		mg/kg wet	0.500	25.0		102	90-110		
Duplicate (1813861-DUP1)										Prepared & Analyzed: 18-Oct-18
Cyanide (total)	< 0.356		mg/kg dry	0.356		BRL				35
MRL Check (1813861-MRL1)										Prepared & Analyzed: 18-Oct-18
Cyanide (total)	1.59		mg/kg wet	0.500	2.00		80	70-130		

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General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW846 9012B</u>										
Batch 1813861 - General Preparation										
<u>Matrix Spike (1813861-MS1)</u>										
Cyanide (total)	21.2		mg/kg dry	0.398	19.9	BRL	106	90-110		
<u>Matrix Spike Dup (1813861-MSD1)</u>										
Cyanide (total)	21.5		mg/kg dry	0.413	20.7	BRL	104	90-110	1	35
<u>Reference (1813861-SRM1)</u>										
Cyanide (total)	92.1		mg/kg wet	2.09	94.3		98	22.3-116		

Notes and Definitions

D	Data reported from a dilution
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
QM1	The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
QM2	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
QM4	Visual evaluation of the sample indicates the RPD is above the control limit due to a non-homogeneous sample matrix.
QM6	Due to noted non-homogeneity of the QC sample matrix, the MS/MSD and/or PS did not provide reliable results for accuracy and precision. Sample results for the QC batch were accepted based on LCS/LCSD percent recoveries and RPD values.
QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM8	The spike recovery exceeded the QC control limits for the MS and/or MSD. The batch was accepted based upon acceptable PS and /or LCS recovery.
QR8	Analyses are not controlled on RPD values from sample concentrations that are less than 5 times the reporting level. The batch is accepted based upon the difference between the sample and duplicate is less than or equal to the reporting limit.
QR9	RPD out of acceptance range. The batch is accepted based upon LCS and/or LCSD recovery.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.



Spectrum Analytical

CHAIN OF CUSTODY RECORD

Page

2 of 3

Special Handling:

☐ Standard TAT - 7 to 10 business days

☒ Rush TAT - Date Needed: Su online

All TATs subject to laboratory approval

Min. 24-hr notification needed for rushes

Samples disposed after 30 days unless otherwise instructed.

Report To: CDU Consultants

Project Mgr: John Dwyer

Telephone #: 508 675 2057

Project Mgr: Su online / Bill Artero

Invoice To: CDU Consultants

Project Mgr: John Dwyer

Telephone #: 508 675 2057

Project Mgr: Su online / Bill Artero

Project No: 151520

Site Name: Boston Airport Site

Location: 300 ft from St. Franklin St

Sample(s): Soil

F=Field Filtered 1=Na₂SO₄ 2=HCl 3=I₂SO₄ 4=HNO₃ 5=NaOH 6=Ascorbic Acid
7=C13O11 8=NaHSO₄ 9=Deionized Water 10=H₂PO₄ 11=Ag₂C₂O₄ 12=

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water

O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas

X1= X2= X3=

G=Grab

C=Composite

Lab ID: Sample ID: Date: Time: Type: Matrix:

SCS1047-11 CDW-S-39 10/9/18 1429 G SO

12 CDW-S-40A 10/9/18 1430 C SO

13 CDW-S-40B 10/9/18 1431 C SO

14 CDW-S-41 10/9/18 1432 G SO

15 CDW-S-42A 10/9/18 1433 C SO

16 CDW-S-42B 10/9/18 1440 C SO

17 CDW-S-43A 10/11/18 0917 C SO

18 CDW-S-43B 10/11/18 0918 C SO

19 CDW-S-44A 10/11/18 0914 C SO

20 CDW-S-44B 10/11/18 0915 C SO

Requisitioned by:

Received by:

Date:

Time:

Temp °C:

EDD format:

Condition upon receipt: ☐ Ambient ☐ Ice ☒ Refrigerated ☐ Dry VOA Frozen ☐ Soil Not Frozen

Container type:

Container ID: CDU Consultants

Condition upon receipt:

Container ID: CDU Consultants

Condition upon receipt:

Container ID: CDU Consultants



Spectrum Analytical

CHAIN OF CUSTODY RECORD

Special Handling:

☐ Standard TAT - 7 to 10 business days☒ Rush TAT - Date Needed: examineAll TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To:

CDU constants
20 Hudson Ave
Barnstable MA 01750

Invoice To:

CDU constants
20 Hudson Ave
Barnstable MA 01750

Project No:

1515.20

Site Name:

Gravice Superfund

Location:

300 Hills St Franklin MA

State:

Sample(s):

5 cells

P.O. No.:

Telephone #:

See card / B. Bates

Quote #:

Date:

State:

P.O. No.:

Quote #:

Date:

State:

F=Field Filtered 1-Ng,SO₂ 2-HCl 3-H₂SO₄ 4-HNO₃ 5-NaOH 6-Arsenic Acid
7=CH₃OH 8-NaHSO₄ 9-Deionized Water 10-H₂PO₄ 11=Ac 12=

DW=Drinking Water

GW=Groundwater

SW=Surface Water

WW=Waste Water

O=Oil

SO=Soil

SL=Sludge

A=Indoor/Ambient Air

SG=Soil Gas

X1=

X2=

X3=

G=Grab

C=Composite

Lab ID:

Sample ID:

Date:

Time:

Type:

Matrix:

of VOA Vials

of Amber Glass

of Clear Glass

of Plastic

of Metal

of Antimony

of Cyanide

of Chlorinated

of Other

of State-specific reporting standards

of MA DEP MCP CAM Report

of CT DEP RCP Report

Standard

DOH+

ASPB+

DU Reduced+

Ther Itz

ASPB+

DU Full+

Ther IV+

No QC

Yes

No

No

No

No

No

No

No

No

Standard

DOH+

ASPB+

DU Reduced+

Ther Itz

ASPB+

DU Full+

Ther IV+

No QC

Yes

No

No

No

No

No

No

No

No

Standard

DOH+

ASPB+

DU Reduced+

Ther Itz

ASPB+

DU Full+

Ther IV+

No QC

Yes

No

No

No

No

No

No

No

No

Standard

DOH+

ASPB+

DU Reduced+

Ther Itz

ASPB+

DU Full+

Ther IV+

No QC

Yes

No

No

No

No

No

No

No

No

Standard

DOH+

ASPB+

DU Reduced+

Ther Itz

ASPB+

DU Full+

Ther IV+

No QC

Yes

No

No

No

No

No

No

No

No

Standard

DOH+

ASPB+

DU Reduced+

Ther Itz

ASPB+

DU Full+

Ther IV+

No QC

Yes

No

No

No

No

No

No

No

No

Standard

DOH+

ASPB+

DU Reduced+

Ther Itz

ASPB+

DU Full+

Ther IV+

No QC

Yes

No

No

No

No

No

No

No

No

Standard

DOH+

ASPB+

DU Reduced+

Ther Itz

ASPB+

DU Full+

Ther IV+

No QC

Yes

No

No

No

No

No

No

No

No

Standard

DOH+

ASPB+

DU Reduced+

Ther Itz

ASPB+

DU Full+

Ther IV+

No QC

Yes

No

No

No

No

No

No

No

No

Standard

DOH+

ASPB+

DU Reduced+

Ther Itz

ASPB+

DU Full+

Ther IV+

No QC

Yes

No

No

No

No

No

No

No

No

Standard

DOH+

ASPB+

DU Reduced+

Ther Itz

ASPB+

DU Full+

Ther IV+

No QC

Yes

No

No

No

No

No

No

No

No

Standard

DOH+

ASPB+

DU Reduced+

Ther Itz

ASPB+

DU Full+

Ther IV+

No QC

Yes

No

No

No

No

No

No

No

No

Standard

DOH+

ASPB+

DU Reduced+

Ther Itz

ASPB+

DU Full+

Ther IV+

No QC

Yes

No

No

No

No

No

No

No

No

Standard

DOH+

ASPB+

DU Reduced+

Ther Itz

ASPB+

DU Full+

Ther IV+

No QC

Yes

No

No

No

No

No

No

No

No

Standard

DOH+

ASPB+

DU Reduced+

Ther Itz

ASPB+

DU Full+

Ther IV+

No QC

Yes

No

No

No

No

No

No

No

No

Standard

DOH+

ASPB+

DU Reduced+

Ther Itz

ASPB+

DU Full+

Ther IV+

No QC

Yes

No

No

No

No

No

No

No

No

Standard

DOH+

ASPB+

DU Reduced+

Ther Itz

ASPB+

DU Full+

Ther IV+

No QC

Yes

No

No

No

No

No

No

No

No

Standard

DOH+

ASPB+

DU Reduced+

Ther Itz

ASPB+

DU Full+

Ther IV+

No QC

Yes

No

No

No

No

No

No

No

No

Standard

DOH+

ASPB+

DU Reduced+

Ther Itz

AS

Batch Summary

1813700

General Chemistry Parameters

1813700-DUP1
1813700-DUP2
SC51047-01 (CDW-S32)
SC51047-02 (CDW-S33)
SC51047-03 (CDW-S34)
SC51047-04 (CDW-S35)
SC51047-05 (CDW-S36A)
SC51047-06 (CDW-S36B)
SC51047-07 (CDW-S37)
SC51047-08 (CDW-S37 Dup)
SC51047-09 (CDW-S38A)
SC51047-10 (CDW-S38B)
SC51047-11 (CDW-S39)
SC51047-12 (CDW-S40A)
SC51047-13 (CDW-S40B)
SC51047-14 (CDW-S41)
SC51047-15 (CDW-S42A)
SC51047-16 (CDW-S42B)
SC51047-17 (CDW-S43A)
SC51047-18 (CDW-S43B)
SC51047-19 (CDW-S44A)
SC51047-20 (CDW-S44B)

1813701

General Chemistry Parameters

1813701-DUP1
1813701-DUP2
SC51047-21 (CDW-S45A)
SC51047-22 (CDW-S45B)
SC51047-23 (CDW-S46A)
SC51047-24 (CDW-S46B)
SC51047-25 (CDW-S47A)
SC51047-26 (CDW-S47B)
SC51047-27 (CDW-S48)
SC51047-28 (CDW-S48 Dup)

1813716

Total Metals by EPA 6000/7000 Series Methods

1813716-BLK1
1813716-DUP1
1813716-MS1
1813716-MSD1
1813716-PS1
1813716-SRM1
1813716-SRM2
SC51047-01 (CDW-S32)
SC51047-02 (CDW-S33)
SC51047-03 (CDW-S34)
SC51047-04 (CDW-S35)
SC51047-05 (CDW-S36A)

SC51047-06 (CDW-S36B)
SC51047-07 (CDW-S37)
SC51047-08 (CDW-S37 Dup)
SC51047-09 (CDW-S38A)
SC51047-10 (CDW-S38B)
SC51047-11 (CDW-S39)
SC51047-12 (CDW-S40A)
SC51047-13 (CDW-S40B)
SC51047-14 (CDW-S41)
SC51047-15 (CDW-S42A)
SC51047-16 (CDW-S42B)
SC51047-17 (CDW-S43A)
SC51047-18 (CDW-S43B)
SC51047-19 (CDW-S44A)
SC51047-20 (CDW-S44B)

1813717

Total Metals by EPA 6000/7000 Series Methods

1813717-BLK1
1813717-DUP1
1813717-MS1
1813717-MSD1
1813717-PS1
1813717-SRM1
SC51047-01 (CDW-S32)
SC51047-02 (CDW-S33)
SC51047-03 (CDW-S34)
SC51047-04 (CDW-S35)
SC51047-05 (CDW-S36A)
SC51047-06 (CDW-S36B)
SC51047-07 (CDW-S37)
SC51047-08 (CDW-S37 Dup)
SC51047-09 (CDW-S38A)
SC51047-10 (CDW-S38B)
SC51047-11 (CDW-S39)
SC51047-12 (CDW-S40A)
SC51047-13 (CDW-S40B)
SC51047-14 (CDW-S41)
SC51047-15 (CDW-S42A)
SC51047-16 (CDW-S42B)
SC51047-17 (CDW-S43A)
SC51047-18 (CDW-S43B)
SC51047-19 (CDW-S44A)
SC51047-20 (CDW-S44B)

1813785**General Chemistry Parameters**

1813785-BLK1
1813785-BLK2
1813785-BS1
1813785-BS2
1813785-CCB1
1813785-CCB2
1813785-CCB3
1813785-CCV1
1813785-CCV2
1813785-CCV3
1813785-DUP1
1813785-MS1
1813785-MSD1
1813785-SRM1
SC51047-01 (CDW-S32)
SC51047-02 (CDW-S33)
SC51047-03 (CDW-S34)
SC51047-04 (CDW-S35)
SC51047-05 (CDW-S36A)
SC51047-06 (CDW-S36B)
SC51047-07 (CDW-S37)
SC51047-08 (CDW-S37 Dup)
SC51047-09 (CDW-S38A)
SC51047-10 (CDW-S38B)
SC51047-11 (CDW-S39)
SC51047-12 (CDW-S40A)

1813786**General Chemistry Parameters**

1813786-BLK1
1813786-BLK2
1813786-BS1
1813786-BS2
1813786-CCB1
1813786-CCB2
1813786-CCB3
1813786-CCB4
1813786-CCV1
1813786-CCV2
1813786-CCV3
1813786-CCV4
1813786-DUP1
1813786-MRL1
1813786-MS1
1813786-MSD1
1813786-PS1
1813786-SRM1
SC51047-13 (CDW-S40B)
SC51047-14 (CDW-S41)
SC51047-15 (CDW-S42A)
SC51047-16 (CDW-S42B)
SC51047-17 (CDW-S43A)
SC51047-18 (CDW-S43B)

SC51047-19 (CDW-S44A)
SC51047-20 (CDW-S44B)
SC51047-21 (CDW-S45A)
SC51047-22 (CDW-S45B)
SC51047-23 (CDW-S46A)
SC51047-24 (CDW-S46B)

1813797**Total Metals by EPA 6000/7000 Series Methods**

1813797-BLK1
1813797-DUP1
1813797-MS1
1813797-MSD1
1813797-PS1
1813797-SRM1
1813797-SRM2
SC51047-21 (CDW-S45A)
SC51047-22 (CDW-S45B)
SC51047-23 (CDW-S46A)
SC51047-24 (CDW-S46B)
SC51047-25 (CDW-S47A)
SC51047-26 (CDW-S47B)
SC51047-27 (CDW-S48)
SC51047-28 (CDW-S48 Dup)

1813798**Total Metals by EPA 6000/7000 Series Methods**

1813798-BLK1
1813798-DUP1
1813798-MS1
1813798-MSD1
1813798-PS1
1813798-SRM1
SC51047-21 (CDW-S45A)
SC51047-22 (CDW-S45B)
SC51047-23 (CDW-S46A)
SC51047-24 (CDW-S46B)
SC51047-25 (CDW-S47A)
SC51047-26 (CDW-S47B)
SC51047-27 (CDW-S48)
SC51047-28 (CDW-S48 Dup)

1813861**General Chemistry Parameters**

1813861-BLK1

1813861-BS1

1813861-CCB1

1813861-CCB2

1813861-CCB3

1813861-CCV1

1813861-CCV2

1813861-CCV3

1813861-DUP1

1813861-MRL1

1813861-MS1

1813861-MSD1

1813861-SRM1

SC51047-25 (CDW-S47A)

SC51047-26 (CDW-S47B)

SC51047-27 (CDW-S48)

SC51047-28 (CDW-S48 Dup)

Laboratory Report SC51219

CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760
Attn: Susan Cahalan-Roach

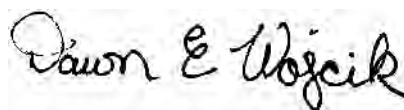
Project: BTAT LLC Superfund Site - Franklin, MA
Project #: 1515.20

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393



Authorized by:
Dawn Wojcik
Laboratory Director



Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.

Please note that this report contains 22 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our Quality web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

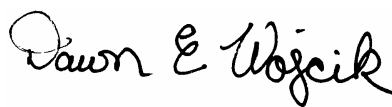
Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC51219
Project: BTAT LLC Superfund Site - Franklin, MA
Project Number: 1515.20

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SC51219-01	CDW-S49A	Soil	17-Oct-18 14:45	18-Oct-18 13:55
SC51219-02	CDW-S49B	Soil	17-Oct-18 14:46	18-Oct-18 13:55
SC51219-03	CDW-S49AD	Soil	17-Oct-18 14:47	18-Oct-18 13:55
SC51219-04	CDW-S50A	Soil	17-Oct-18 14:50	18-Oct-18 13:55
SC51219-05	CDW-S50B	Soil	17-Oct-18 14:52	18-Oct-18 13:55
SC51219-06	CDW-S51A	Soil	17-Oct-18 14:55	18-Oct-18 13:55
SC51219-07	CDW-S51B	Soil	17-Oct-18 14:57	18-Oct-18 13:55
SC51219-08	CDW-S52A	Soil	17-Oct-18 15:00	18-Oct-18 13:55
SC51219-09	CDW-S52B	Soil	17-Oct-18 15:01	18-Oct-18 13:55

MassDEP Analytical Protocol Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.			Project #: 1515.20		
Project Location: BTAT LLC Superfund Site - Franklin, MA			RTN:		
This form provides certifications for the following data set:			SC51219-01 through SC51219-09		
Matrices: Soil					
CAM Protocol					
8260 VOC CAM II A	✓ 7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
✓ 6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	✓ 9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B
<i>Affirmative responses to questions A through F are required for Presumptive Certainty's status</i>					
A	Were all samples received in a condition consistent with those described on the Chain of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?				✓ Yes No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?				✓ Yes No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?				✓ Yes No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?				✓ Yes No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?				Yes No Yes No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to questions A through E)?				✓ Yes No
<i>Responses to questions G, H and I below are required for Presumptive Certainty's status</i>					
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?				Yes ✓ No
Data User Note: Data that achieve <i>Presumptive Certainty's status</i> may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.					
H	Were all QC performance standards specified in the CAM protocol(s) achieved?				Yes ✓ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?				Yes ✓ No
<i>All negative responses are addressed in a case narrative on the cover page of this report.</i>					
<p><i>I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.</i></p> <div style="text-align: right; margin-top: 20px;">  Dawn E. Wojcik Laboratory Director Date: 10/23/2018 </div>					

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 2.0 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 6010C

Spikes:

1813916-MS1 *Source: SC51219-01*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Lead

1813916-MSD1 *Source: SC51219-01*

RPD out of acceptance range. The batch is accepted based upon LCS and/or LCSD recovery.

Barium

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Lead

The spike recovery was outside of QC acceptance limits for the MS, MSD and/or PS due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.

Barium

1813916-PS1 *Source: SC51219-01*

The spike recovery was outside of QC acceptance limits for the MS, MSD and/or PS due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.

Barium

Duplicates:

1813916-DUP1 *Source: SC51219-01*

This laboratory report is not valid without an authorized signature on the cover page.

SW846 6010C

Duplicates:

1813916-DUP1 *Source: SC51219-01*

RPD out of acceptance range. The batch is accepted based upon LCS and/or LCSD recovery.

Barium

The RPD exceeded the QC control limits; however precision is demonstrated with acceptable RPD values for MS/MSD.

Antimony

SW846 7471B

Spikes:

1813917-MS1 *Source: SC51219-01*

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Mercury

1813917-MSD1 *Source: SC51219-01*

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Mercury

Duplicates:

1813917-DUP1 *Source: SC51219-01*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

The RPD exceeded the QC control limits; however precision is demonstrated with acceptable RPD values for MS/MSD.

Mercury

Samples:

SC51219-01 *CDW-S49A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51219-03 *CDW-S49AD*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51219-04 *CDW-S50A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51219-06 *CDW-S51A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51219-09 *CDW-S52B*

SW846 7471B

Samples:

SC51219-09 *CDW-S52B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SW846 9012B

Spikes:

1813918-MS1 *Source: SC51219-08*

The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.

Cyanide (total)

1813918-MSD1 *Source: SC51219-08*

The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.

Cyanide (total)

Sample Acceptance Check Form

Client: CDW Consultants, Inc.
Project: BTAT LLC Superfund Site - Franklin, MA / 1515.20
Work Order: SC51219
Sample(s) received on: 10/18/2018

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Were custody seals present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were custody seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Were samples received at a temperature of $\leq 6^{\circ}\text{C}$?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples refrigerated upon transfer to laboratory representative?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were sample containers received intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples accompanied by a Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did sample container labels agree with Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples received within method-specific holding times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Summary of Hits

Lab ID: SC51219-01

Client ID: CDW-S49A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	29.0		8.53	mg/kg	SW846 6010C
Arsenic	7.77		2.56	mg/kg	SW846 6010C
Barium	1180		1.71	mg/kg	SW846 6010C
Cadmium	5.33		0.853	mg/kg	SW846 6010C
Chromium	9.58		1.71	mg/kg	SW846 6010C
Lead	851		2.56	mg/kg	SW846 6010C
Mercury	2.23	D, GS	10.495	mg/kg	SW846 7471B

Lab ID: SC51219-02

Client ID: CDW-S49B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	3.20		2.89	mg/kg	SW846 6010C
Barium	146		1.93	mg/kg	SW846 6010C
Chromium	13.0		1.93	mg/kg	SW846 6010C
Lead	39.2		2.89	mg/kg	SW846 6010C
Mercury	0.349		0.0545	mg/kg	SW846 7471B

Lab ID: SC51219-03

Client ID: CDW-S49AD

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	19.8		6.71	mg/kg	SW846 6010C
Arsenic	7.10		2.01	mg/kg	SW846 6010C
Barium	516		1.34	mg/kg	SW846 6010C
Cadmium	2.94		0.671	mg/kg	SW846 6010C
Chromium	6.63		1.34	mg/kg	SW846 6010C
Lead	894		2.01	mg/kg	SW846 6010C
Mercury	56.4	GS1, D3	8.4	mg/kg	SW846 7471B

Lab ID: SC51219-04

Client ID: CDW-S50A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	9.70		5.83	mg/kg	SW846 6010C
Arsenic	4.83		1.75	mg/kg	SW846 6010C
Barium	671		1.17	mg/kg	SW846 6010C
Cadmium	1.40		0.583	mg/kg	SW846 6010C
Chromium	5.72		1.17	mg/kg	SW846 6010C
Lead	830		1.75	mg/kg	SW846 6010C
Selenium	3.05		1.75	mg/kg	SW846 6010C
Mercury	5.28	GS1, D0	7.54	mg/kg	SW846 7471B

Lab ID: SC51219-05**Client ID:** CDW-S50B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Barium	132		2.19	mg/kg	SW846 6010C
Chromium	11.7		2.19	mg/kg	SW846 6010C
Lead	365		3.29	mg/kg	SW846 6010C
Mercury	0.833		0.0586	mg/kg	SW846 7471B

Lab ID: SC51219-06**Client ID:** CDW-S51A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	11.5		6.59	mg/kg	SW846 6010C
Arsenic	6.18		1.98	mg/kg	SW846 6010C
Barium	416		1.32	mg/kg	SW846 6010C
Cadmium	2.97		0.659	mg/kg	SW846 6010C
Chromium	6.35		1.32	mg/kg	SW846 6010C
Lead	1020		1.98	mg/kg	SW846 6010C
Mercury	3.08	GS1, D0.406		mg/kg	SW846 7471B

Lab ID: SC51219-07**Client ID:** CDW-S51B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Barium	38.7		1.20	mg/kg	SW846 6010C
Chromium	6.30		1.20	mg/kg	SW846 6010C
Lead	65.7		1.80	mg/kg	SW846 6010C
Mercury	0.0903		0.0339	mg/kg	SW846 7471B

Lab ID: SC51219-08**Client ID:** CDW-S52A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	8.24		6.23	mg/kg	SW846 6010C
Arsenic	13.8		1.87	mg/kg	SW846 6010C
Barium	203		1.25	mg/kg	SW846 6010C
Cadmium	4.01		0.623	mg/kg	SW846 6010C
Chromium	6.75		1.25	mg/kg	SW846 6010C
Lead	1320		1.87	mg/kg	SW846 6010C
Mercury	0.460		0.0380	mg/kg	SW846 7471B

Lab ID: SC51219-09**Client ID:** CDW-S52B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	3.27		2.88	mg/kg	SW846 6010C
Barium	118		1.92	mg/kg	SW846 6010C
Chromium	15.5		1.92	mg/kg	SW846 6010C
Lead	147		2.88	mg/kg	SW846 6010C
Mercury	8.05	GS1, D1.09		mg/kg	SW846 7471B

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification

CDW-S49A

SC51219-01

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

17-Oct-18 14:45

Received

18-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 2.56		mg/kg dry	2.56	0.277	1	SW846 6010C	19-Oct-18	19-Oct-18	SC/TBC	1813916	
7440-38-2	Arsenic	7.77		mg/kg dry	2.56	0.324	1	"	"	"	"	"	
7440-39-3	Barium	1,180		mg/kg dry	1.71	0.201	1	"	"	"	"	"	
7440-43-9	Cadmium	5.33		mg/kg dry	0.853	0.0442	1	"	"	"	"	"	
7440-47-3	Chromium	9.58		mg/kg dry	1.71	0.227	1	"	"	"	"	"	
7439-97-6	Mercury	2.23	D, GS1	mg/kg dry	0.495	0.137	10	SW846 7471B	"	23-Oct-18	ABW	1813917	

Prepared by method SW846 3051A

7439-92-1	Lead	851		mg/kg dry	2.56	0.362	1	SW846 6010C	"	22-Oct-18	SC/EDT	1813916	
7440-36-0	Antimony	29.0		mg/kg dry	8.53	0.642	1	"	"	19-Oct-18	"	"	
7782-49-2	Selenium	< 2.56		mg/kg dry	2.56	0.488	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	54.0			%			1	SM2540 G (11) Mod.	18-Oct-18	18-Oct-18	BD	1813902	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.503		mg/kg dry	0.503	0.398	1	SW846 9012B	19-Oct-18	19-Oct-18	RLT	1813918	
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Sample Identification

CDW-S49B

SC51219-02

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

17-Oct-18 14:46

Received

18-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 2.89		mg/kg dry	2.89	0.312	1	SW846 6010C	19-Oct-18	19-Oct-18	SC/TBC	1813916	
7440-38-2	Arsenic	3.20		mg/kg dry	2.89	0.366	1	"	"	"	"	"	
7440-39-3	Barium	146		mg/kg dry	1.93	0.227	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.963		mg/kg dry	0.963	0.0499	1	"	"	"	"	"	
7440-47-3	Chromium	13.0		mg/kg dry	1.93	0.256	1	"	"	"	"	"	
7439-97-6	Mercury	0.349		mg/kg dry	0.0545	0.0151	1	SW846 7471B	"	23-Oct-18	ABW	1813917	

Prepared by method SW846 3051A

7439-92-1	Lead	39.2		mg/kg dry	2.89	0.409	1	SW846 6010C	"	22-Oct-18	SC/EDT	1813916	
7440-36-0	Antimony	< 9.63		mg/kg dry	9.63	0.725	1	"	"	19-Oct-18	"	"	
7782-49-2	Selenium	< 2.89		mg/kg dry	2.89	0.551	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	50.5		%				1	SM2540 G (11) Mod.	18-Oct-18	18-Oct-18	BD	1813902	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.561		mg/kg dry	0.561	0.443	1	SW846 9012B	19-Oct-18	19-Oct-18	RLT	1813918	
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Sample Identification

CDW-S49AD

SC51219-03

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

17-Oct-18 14:47

Received

18-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 2.01		mg/kg dry	2.01	0.217	1	SW846 6010C	19-Oct-18	19-Oct-18	SC/TBC	1813916	
7440-38-2	Arsenic	7.10		mg/kg dry	2.01	0.255	1	"	"	"	"	"	
7440-39-3	Barium	516		mg/kg dry	1.34	0.158	1	"	"	"	"	"	
7440-43-9	Cadmium	2.94		mg/kg dry	0.671	0.0347	1	"	"	"	"	"	
7440-47-3	Chromium	6.63		mg/kg dry	1.34	0.178	1	"	"	"	"	"	
7439-97-6	Mercury	56.4	GS1, D	mg/kg dry	3.84	1.07	100	SW846 7471B	"	23-Oct-18	ABW	1813917	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	894		mg/kg dry	2.01	0.284	1	SW846 6010C	"	22-Oct-18	SC/EDT	1813916	
7440-36-0	Antimony	19.8		mg/kg dry	6.71	0.504	1	"	"	19-Oct-18	"	"	
7782-49-2	Selenium	< 2.01		mg/kg dry	2.01	0.384	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	68.6		%			1	SM2540 G (11) Mod.	18-Oct-18	18-Oct-18	BD	1813902	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.445		mg/kg dry	0.445	0.351	1	SW846 9012B	19-Oct-18	19-Oct-18	RLT	1813918	

Sample Identification

CDW-S50A

SC51219-04

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

17-Oct-18 14:50

Received

18-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 1.75		mg/kg dry	1.75	0.189	1	SW846 6010C	19-Oct-18	19-Oct-18	SC/TBC	1813916	
7440-38-2	Arsenic	4.83		mg/kg dry	1.75	0.222	1	"	"	"	"	"	
7440-39-3	Barium	671		mg/kg dry	1.17	0.138	1	"	"	"	"	"	
7440-43-9	Cadmium	1.40		mg/kg dry	0.583	0.0302	1	"	"	"	"	"	
7440-47-3	Chromium	5.72		mg/kg dry	1.17	0.155	1	"	"	"	"	"	
7439-97-6	Mercury	5.28	GS1, D	mg/kg dry	0.754	0.209	20	SW846 7471B	"	23-Oct-18	ABW	1813917	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	830		mg/kg dry	1.75	0.247	1	SW846 6010C	"	22-Oct-18	SC/EDT	1813916	
7440-36-0	Antimony	9.70		mg/kg dry	5.83	0.438	1	"	"	19-Oct-18	"	"	
7782-49-2	Selenium	3.05		mg/kg dry	1.75	0.334	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	79.3		%			1	SM2540 G (11) Mod.	18-Oct-18	18-Oct-18	BD	1813902	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.318		mg/kg dry	0.318	0.251	1	SW846 9012B	19-Oct-18	19-Oct-18	RLT	1813918	

Sample Identification

CDW-S50B

SC51219-05

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

17-Oct-18 14:52

Received

18-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 3.29		mg/kg dry	3.29	0.355	1	SW846 6010C	19-Oct-18	19-Oct-18	SC/TBC	1813916	
7440-38-2	Arsenic	< 3.29		mg/kg dry	3.29	0.416	1	"	"	"	"	"	
7440-39-3	Barium	132		mg/kg dry	2.19	0.259	1	"	"	"	"	"	
7440-43-9	Cadmium	< 1.10		mg/kg dry	1.10	0.0568	1	"	"	"	"	"	
7440-47-3	Chromium	11.7		mg/kg dry	2.19	0.291	1	"	"	"	"	"	
7439-97-6	Mercury	0.833		mg/kg dry	0.0586	0.0163	1	SW846 7471B	"	23-Oct-18	ABW	1813917	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	365		mg/kg dry	3.29	0.465	1	SW846 6010C	"	22-Oct-18	SC/EDT	1813916	
7440-36-0	Antimony	< 11.0		mg/kg dry	11.0	0.824	1	"	"	19-Oct-18	"	"	
7782-49-2	Selenium	< 3.29		mg/kg dry	3.29	0.627	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	44.2		%			1	SM2540 G (11) Mod.	18-Oct-18	18-Oct-18	BD	1813902	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.756		mg/kg dry	0.756	0.597	1	SW846 9012B	19-Oct-18	19-Oct-18	RLT	1813918	

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Sample Identification

CDW-S51A

SC51219-06

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

17-Oct-18 14:55

Received

18-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.98		mg/kg dry	1.98	0.214	1	SW846 6010C	19-Oct-18	19-Oct-18	SC/TBC	1813916	
7440-38-2	Arsenic	6.18		mg/kg dry	1.98	0.251	1	"	"	"	"	"	
7440-39-3	Barium	416		mg/kg dry	1.32	0.156	1	"	"	"	"	"	
7440-43-9	Cadmium	2.97		mg/kg dry	0.659	0.0342	1	"	"	"	"	"	
7440-47-3	Chromium	6.35		mg/kg dry	1.32	0.175	1	"	"	"	"	"	
7439-97-6	Mercury	3.08	GS1, D	mg/kg dry	0.406	0.113	10	SW846 7471B	"	23-Oct-18	ABW	1813917	

Prepared by method SW846 3051A

7439-92-1	Lead	1,020		mg/kg dry	1.98	0.280	1	SW846 6010C	"	22-Oct-18	SC/EDT	1813916	
7440-36-0	Antimony	11.5		mg/kg dry	6.59	0.496	1	"	"	19-Oct-18	"	"	
7782-49-2	Selenium	< 1.98		mg/kg dry	1.98	0.377	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	70.7			%			1	SM2540 G (11) Mod.	18-Oct-18	18-Oct-18	BD	1813902	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.343		mg/kg dry	0.343	0.271	1	SW846 9012B	19-Oct-18	19-Oct-18	RLT	1813918	
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Sample Identification

CDW-S51B

SC51219-07

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

17-Oct-18 14:57

Received

18-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 1.80		mg/kg dry	1.80	0.195	1	SW846 6010C	19-Oct-18	19-Oct-18	SC/TBC	1813916	
7440-38-2	Arsenic	< 1.80		mg/kg dry	1.80	0.228	1	"	"	"	"	"	
7440-39-3	Barium	38.7		mg/kg dry	1.20	0.142	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.601		mg/kg dry	0.601	0.0311	1	"	"	"	"	"	
7440-47-3	Chromium	6.30		mg/kg dry	1.20	0.160	1	"	"	"	"	"	
7439-97-6	Mercury	0.0903		mg/kg dry	0.0339	0.0094	1	SW846 7471B	"	23-Oct-18	ABW	1813917	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	65.7		mg/kg dry	1.80	0.255	1	SW846 6010C	"	22-Oct-18	SC/EDT	1813916	
7440-36-0	Antimony	< 6.01		mg/kg dry	6.01	0.452	1	"	"	19-Oct-18	"	"	
7782-49-2	Selenium	< 1.80		mg/kg dry	1.80	0.344	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	82.1		%			1	SM2540 G (11) Mod.	18-Oct-18	18-Oct-18	BD	1813902	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.435		mg/kg dry	0.435	0.343	1	SW846 9012B	19-Oct-18	19-Oct-18	RLT	1813918	

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Sample Identification

CDW-S52A

SC51219-08

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

17-Oct-18 15:00

Received

18-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.87		mg/kg dry	1.87	0.202	1	SW846 6010C	19-Oct-18	19-Oct-18	SC/TBC	1813916	
7440-38-2	Arsenic	13.8		mg/kg dry	1.87	0.237	1	"	"	"	"	"	
7440-39-3	Barium	203		mg/kg dry	1.25	0.147	1	"	"	"	"	"	
7440-43-9	Cadmium	4.01		mg/kg dry	0.623	0.0323	1	"	"	"	"	"	
7440-47-3	Chromium	6.75		mg/kg dry	1.25	0.166	1	"	"	"	"	"	
7439-97-6	Mercury	0.460		mg/kg dry	0.0380	0.0105	1	SW846 7471B	"	23-Oct-18	ABW	1813917	

Prepared by method SW846 3051A

7439-92-1	Lead	1,320		mg/kg dry	1.87	0.264	1	SW846 6010C	"	22-Oct-18	SC/EDT	1813916	
7440-36-0	Antimony	8.24		mg/kg dry	6.23	0.468	1	"	"	19-Oct-18	"	"	
7782-49-2	Selenium	< 1.87		mg/kg dry	1.87	0.356	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	76.9		%			1	SM2540 G (11) Mod.	18-Oct-18	18-Oct-18	BD	1813902	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.331		mg/kg dry	0.331	0.261	1	SW846 9012B	19-Oct-18	19-Oct-18	RLT	1813918	
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Sample Identification

CDW-S52B

SC51219-09

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

17-Oct-18 15:01

Received

18-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 2.88		mg/kg dry	2.88	0.311	1	SW846 6010C	19-Oct-18	19-Oct-18	SC/TBC	1813916	
7440-38-2	Arsenic	3.27		mg/kg dry	2.88	0.365	1	"	"	"	"	"	
7440-39-3	Barium	118		mg/kg dry	1.92	0.227	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.961		mg/kg dry	0.961	0.0498	1	"	"	"	"	"	
7440-47-3	Chromium	15.5		mg/kg dry	1.92	0.256	1	"	"	"	"	"	
7439-97-6	Mercury	8.05	GS1, D	mg/kg dry	1.09	0.302	20	SW846 7471B	"	23-Oct-18	ABW	1813917	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	147		mg/kg dry	2.88	0.407	1	SW846 6010C	"	22-Oct-18	SC/EDT	1813916	
7440-36-0	Antimony	< 9.61		mg/kg dry	9.61	0.723	1	"	"	19-Oct-18	"	"	
7782-49-2	Selenium	< 2.88		mg/kg dry	2.88	0.550	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	49.1		%			1	SM2540 G (11) Mod.	18-Oct-18	18-Oct-18	BD	1813902	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.769		mg/kg dry	0.769	0.607	1	SW846 9012B	19-Oct-18	19-Oct-18	RLT	1813918	

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Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW846 6010C</u>										
Batch 1813916 - SW846 3051A										
<u>Blank (1813916-BLK1)</u>					<u>Prepared & Analyzed: 19-Oct-18</u>					
Silver	< 1.43		mg/kg wet	1.43						
Arsenic	< 1.43		mg/kg wet	1.43						
Cadmium	< 0.476		mg/kg wet	0.476						
Chromium	< 0.951		mg/kg wet	0.951						
Antimony	< 4.76		mg/kg wet	4.76						
Selenium	< 1.43		mg/kg wet	1.43						
Lead	< 1.43		mg/kg wet	1.43						
Barium	< 0.951		mg/kg wet	0.951						
<u>Duplicate (1813916-DUP1)</u>					<u>Source: SC51219-01</u>		<u>Prepared & Analyzed: 19-Oct-18</u>			
Arsenic	7.11		mg/kg dry	2.55		7.77			9	20
Lead	703		mg/kg dry	2.55		851			19	20
Selenium	1.15	J	mg/kg dry	2.55		1.25			9	20
Antimony	18.7	QR6	mg/kg dry	8.51		29.0			43	20
Chromium	10.5		mg/kg dry	1.70		9.58			9	20
Cadmium	4.70		mg/kg dry	0.851		5.33			13	20
Silver	< 2.55		mg/kg dry	2.55		BRL				20
Barium	798	QR9	mg/kg dry	1.70		1180			38	20
<u>Matrix Spike (1813916-MS1)</u>					<u>Source: SC51219-01</u>		<u>Prepared: 19-Oct-18 Analyzed: 22-Oct-18</u>			
Lead	1290	QM7	mg/kg dry	2.67	223	851	196	75-125		
Selenium	214		mg/kg dry	2.67	223	1.25	95	75-125		
Silver	195		mg/kg dry	2.67	223	BRL	88	75-125		
Arsenic	235		mg/kg dry	2.67	223	7.77	102	75-125		
Cadmium	205		mg/kg dry	0.890	223	5.33	90	75-125		
Antimony	256		mg/kg dry	8.90	223	29.0	102	75-125		
Chromium	229		mg/kg dry	1.78	223	9.58	99	75-125		
Barium	1390		mg/kg dry	1.78	223	1180	96	75-125		
<u>Matrix Spike Dup (1813916-MSD1)</u>					<u>Source: SC51219-01</u>		<u>Prepared & Analyzed: 19-Oct-18</u>			
Chromium	234		mg/kg dry	1.82	227	9.58	99	75-125	2	20
Arsenic	236		mg/kg dry	2.73	227	7.77	100	75-125	0.6	20
Cadmium	210		mg/kg dry	0.910	227	5.33	90	75-125	2	20
Silver	188		mg/kg dry	2.73	227	BRL	83	75-125	4	20
Antimony	247		mg/kg dry	9.10	227	29.0	96	75-125	4	20
Selenium	220		mg/kg dry	2.73	227	1.25	96	75-125	3	20
Lead	750	QM7	mg/kg dry	2.73	227	851	-45	75-125	53	20
Barium	959	QM4X, QR9	mg/kg dry	1.82	227	1180	-96	75-125	37	20
<u>Post Spike (1813916-PS1)</u>					<u>Source: SC51219-01</u>		<u>Prepared & Analyzed: 19-Oct-18</u>			
Arsenic	232		mg/kg dry	2.56	213	7.77	105	80-120		
Cadmium	207		mg/kg dry	0.853	213	5.33	95	80-120		
Chromium	229		mg/kg dry	1.71	213	9.58	103	80-120		
Selenium	212		mg/kg dry	2.56	213	1.25	99	80-120		
Antimony	255		mg/kg dry	8.53	213	29.0	106	80-120		
Barium	1290	QM4X	mg/kg dry	1.71	213	1180	51	80-120		
<u>Reference (1813916-SRM1)</u>					<u>Prepared & Analyzed: 19-Oct-18</u>					
Selenium	88.0		mg/kg wet	1.50	95.5		92	79.6-120.9		
Antimony	59.4		mg/kg wet	5.00	37.8		157	25-196		
Chromium	67.2		mg/kg wet	1.00	68.0		99	82.4-117.6		
Cadmium	96.8		mg/kg wet	0.500	106		92	83.4-116.6		

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Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW846 6010C</u>										
Batch 1813916 - SW846 3051A										
<u>Reference (1813916-SRM1)</u>	<u>Prepared: 19-Oct-18 Analyzed: 22-Oct-18</u>									
Lead	50.8		mg/kg wet	1.50	55.5		91	83-117.1		
Arsenic	79.0		mg/kg wet	1.50	80.5		98	83.2-116.8		
Silver	19.3		mg/kg wet	1.50	21.7		89	79.9-119.9		
Barium	118		mg/kg wet	1.00	130		90	82.7-117.3		
<u>Reference (1813916-SRM2)</u>	<u>Prepared & Analyzed: 19-Oct-18</u>									
Selenium	88.6		mg/kg wet	1.50	96.2		92	79.6-120.9		
Antimony	59.6		mg/kg wet	5.00	38.0		157	25-196		
Cadmium	96.6		mg/kg wet	0.500	106		91	83.4-116.6		
Lead	51.6		mg/kg wet	1.50	55.9		92	83-117.1		
Chromium	66.8		mg/kg wet	1.00	68.5		98	82.4-117.6		
Arsenic	79.9		mg/kg wet	1.50	81.1		99	83.2-116.8		
Silver	19.8		mg/kg wet	1.50	21.8		91	79.9-119.9		
Barium	124		mg/kg wet	1.00	131		94	82.7-117.3		
<u>SW846 7471B</u>										
Batch 1813917 - EPA200/SW7000 Series										
<u>Blank (1813917-BLK1)</u>	<u>Prepared: 19-Oct-18 Analyzed: 23-Oct-18</u>									
Mercury	< 0.0269		mg/kg wet	0.0269						
<u>Duplicate (1813917-DUP1)</u>	<u>Source: SC51219-01 Prepared: 19-Oct-18 Analyzed: 23-Oct-18</u>									
Mercury	4.01	GS1, QR6, D	mg/kg dry	0.488		2.23			57	20
<u>Matrix Spike (1813917-MS1)</u>	<u>Source: SC51219-01 Prepared: 19-Oct-18 Analyzed: 23-Oct-18</u>									
Mercury	4.12	QM2, D	mg/kg dry	0.497	0.345	2.23	548	75-125		
<u>Matrix Spike Dup (1813917-MSD1)</u>	<u>Source: SC51219-01 Prepared: 19-Oct-18 Analyzed: 23-Oct-18</u>									
Mercury	4.43	QM2, D	mg/kg dry	0.480	0.334	2.23	657	75-125	7	20
<u>Post Spike (1813917-PS1)</u>	<u>Source: SC51219-01 Prepared: 19-Oct-18 Analyzed: 23-Oct-18</u>									
Mercury	6.11	D	mg/kg dry	0.495	3.44	2.23	113	80-120		
<u>Reference (1813917-SRM1)</u>	<u>Prepared: 19-Oct-18 Analyzed: 23-Oct-18</u>									
Mercury	5.07	D	mg/kg wet	0.600	3.96		128	71.6-128		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SM2540 G (11) Mod.</u>										
Batch 1813902 - General Preparation										
<u>Duplicate (1813902-DUP1)</u>				<u>Source: SC51219-01</u>		<u>Prepared & Analyzed: 18-Oct-18</u>				
% Solids	55.5		%			54.0			3	5
<u>SW846 9012B</u>										
Batch 1813918 - General Preparation										
<u>Blank (1813918-BLK1)</u>						<u>Prepared & Analyzed: 19-Oct-18</u>				
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>Blank (1813918-BLK2)</u>						<u>Prepared & Analyzed: 19-Oct-18</u>				
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>LCS (1813918-BS1)</u>						<u>Prepared & Analyzed: 19-Oct-18</u>				
Cyanide (total)	26.3		mg/kg wet	0.500	25.0		105	90-110		
<u>LCS (1813918-BS2)</u>						<u>Prepared & Analyzed: 19-Oct-18</u>				
Cyanide (total)	24.6		mg/kg wet	0.500	25.0		98	90-110		
<u>Calibration Blank (1813918-CCB1)</u>						<u>Prepared & Analyzed: 19-Oct-18</u>				
Cyanide (total)	0.00116		mg/kg wet							
<u>Calibration Blank (1813918-CCB2)</u>						<u>Prepared & Analyzed: 19-Oct-18</u>				
Cyanide (total)	0.000761		mg/kg wet							
<u>Calibration Blank (1813918-CCB3)</u>						<u>Prepared & Analyzed: 19-Oct-18</u>				
Cyanide (total)	0.00114		mg/kg wet							
<u>Calibration Check (1813918-CCV1)</u>						<u>Prepared & Analyzed: 19-Oct-18</u>				
Cyanide (total)	25.4		mg/kg wet	0.500	25.0		102	90-110		
<u>Calibration Check (1813918-CCV2)</u>						<u>Prepared & Analyzed: 19-Oct-18</u>				
Cyanide (total)	25.4		mg/kg wet	0.500	25.0		102	90-110		
<u>Calibration Check (1813918-CCV3)</u>						<u>Prepared & Analyzed: 19-Oct-18</u>				
Cyanide (total)	25.3		mg/kg wet	0.500	25.0		101	90-110		
<u>Duplicate (1813918-DUP1)</u>				<u>Source: SC51219-08</u>		<u>Prepared & Analyzed: 19-Oct-18</u>				
Cyanide (total)	< 0.380		mg/kg dry	0.380		BRL				35
<u>MRL Check (1813918-MRL1)</u>						<u>Prepared & Analyzed: 19-Oct-18</u>				
Cyanide (total)	1.81		mg/kg wet	0.500	2.00		90	70-130		
<u>Matrix Spike (1813918-MS1)</u>				<u>Source: SC51219-08</u>		<u>Prepared & Analyzed: 19-Oct-18</u>				
Cyanide (total)	15.0	QM1	mg/kg dry	0.424	21.2	BRL	71	90-110		
<u>Matrix Spike Dup (1813918-MSD1)</u>				<u>Source: SC51219-08</u>		<u>Prepared & Analyzed: 19-Oct-18</u>				
Cyanide (total)	10.7	QM1	mg/kg dry	0.388	19.4	BRL	55	90-110	33	35
<u>Post Spike (1813918-PS1)</u>				<u>Source: SC51219-09</u>		<u>Prepared & Analyzed: 19-Oct-18</u>				
Cyanide (total)	0.264		mg/l		0.250	0.00157	105	75-125		
<u>Reference (1813918-SRM1)</u>						<u>Prepared & Analyzed: 19-Oct-18</u>				
Cyanide (total)	83.6		mg/kg wet	1.65	94.3		89	22.3-116		

Notes and Definitions

D	Data reported from a dilution
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
QM1	The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
QM2	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
QM4X	The spike recovery was outside of QC acceptance limits for the MS, MSD and/or PS due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QR6	The RPD exceeded the QC control limits; however precision is demonstrated with acceptable RPD values for MS/MSD.
QR9	RPD out of acceptance range. The batch is accepted based upon LCS and/or LCSD recovery.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.



Spectrum Analytical

CHAIN OF CUSTODY RECORD

Page 1 of 1

SCS1219 DM

Gardner

Special Handling:

P.E. 10764

☒ Standard TAT - 7 to 10 business days
☐ Rush TAT - Date Needed: 10/26/18All TAT's subject to laboratory approval
Min. 24-hr notification needed for metals
Samples disposed after 30 days unless otherwise instructed.Report To: CDW ConsultantsInvoice To: CDW ConsultantsProject No: 1515.206 Haver Drive
Bedford MA 017606 Haver Drive
Bedford MA 01760Site Name: B. J. A. T SuperfundLocation: 300 Essex Street Franklin MA
Sample(s): B. J. A. T SuperfundTelephone #: 508-875-2654
Project Mgr: Joe CalabreseP.O. No.: 1515.20

Quote #:

F=Field Filtered 1=Na₂SO₄ 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=Ascorbic Acid
7=CH₃OH 8=NaHSO₄ 9=Deionized Water 10=H₂O 11= 4°C 12=

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water

O=Oil SO=Soil SL=Sludge A=Indoor Ambient Air SG=Soil Gas

X1= X2= X3=

G=Grab C=Composite

Lab ID: Sample ID: Date: Time: Type Matrix

SCS1219-01 CDW-S49A 10/17/18 1445 C So

02 CDW-S49B 10/17/18 1446 C So

03 CDW-S49AD 10/17/18 1447 C So

04 CDW-S50A 10/17/18 1450 C So

05 CDW-S50B 10/17/18 1452 C So

06 CDW-S51A 10/17/18 1455 C So

07 CDW-S51B 10/17/18 1457 C So

08 CDW-S52A 10/17/18 1500 C So

09 CDW-S52B 10/17/18 1501 C So

Relinquished by: Joe CalabreseReceived by: Joe Calabrese

10/18/18 1355

10/17/18 1445

10/17/18 1445

10/17/18 1445

Containers

of VOA Vials
of Amber Glass
of Clear Glass
of Plastic
RCDAS Metals
Antimony
Cyanide

Analysis

Check if chlorinated
3A DEP MCP CVM Report: ☒ Yes ☐ No
CT DEP RCT Report: ☐ Yes ☐ No
☐ Standard ☐ No QC
☐ ASP A* ☐ ASP B* ☐ ASP C*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
Other: ☐ State-specific reporting standards.

List Preservative Code below:

QA/QC Reporting Notes:

* additional changes may apply

☐ EDD format:☒ E-mail to:scalaham@cdwconsultants.comCondition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken☐ Ambient ☐ Iced ☒ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

Batch Summary

1813902

General Chemistry Parameters

1813902-DUP1
SC51219-01 (CDW-S49A)
SC51219-02 (CDW-S49B)
SC51219-03 (CDW-S49AD)
SC51219-04 (CDW-S50A)
SC51219-05 (CDW-S50B)
SC51219-06 (CDW-S51A)
SC51219-07 (CDW-S51B)
SC51219-08 (CDW-S52A)
SC51219-09 (CDW-S52B)

1813916

Total Metals by EPA 6000/7000 Series Methods

1813916-BLK1
1813916-DUP1
1813916-MS1
1813916-MSD1
1813916-PS1
1813916-SRM1
1813916-SRM2
SC51219-01 (CDW-S49A)
SC51219-02 (CDW-S49B)
SC51219-03 (CDW-S49AD)
SC51219-04 (CDW-S50A)
SC51219-05 (CDW-S50B)
SC51219-06 (CDW-S51A)
SC51219-07 (CDW-S51B)
SC51219-08 (CDW-S52A)
SC51219-09 (CDW-S52B)

1813917

Total Metals by EPA 6000/7000 Series Methods

1813917-BLK1
1813917-DUP1
1813917-MS1
1813917-MSD1
1813917-PS1
1813917-SRM1
SC51219-01 (CDW-S49A)
SC51219-02 (CDW-S49B)
SC51219-03 (CDW-S49AD)
SC51219-04 (CDW-S50A)
SC51219-05 (CDW-S50B)
SC51219-06 (CDW-S51A)
SC51219-07 (CDW-S51B)
SC51219-08 (CDW-S52A)
SC51219-09 (CDW-S52B)

1813918

General Chemistry Parameters

1813918-BLK1
1813918-BLK2
1813918-BS1
1813918-BS2
1813918-CCB1
1813918-CCB2
1813918-CCB3
1813918-CCV1
1813918-CCV2
1813918-CCV3
1813918-DUP1
1813918-MRL1
1813918-MS1
1813918-MSD1
1813918-PS1
1813918-SRM1
SC51219-01 (CDW-S49A)
SC51219-02 (CDW-S49B)
SC51219-03 (CDW-S49AD)
SC51219-04 (CDW-S50A)
SC51219-05 (CDW-S50B)
SC51219-06 (CDW-S51A)
SC51219-07 (CDW-S51B)
SC51219-08 (CDW-S52A)
SC51219-09 (CDW-S52B)

Laboratory Report SC51315

CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760
Attn: Susan Cahalan-Roach

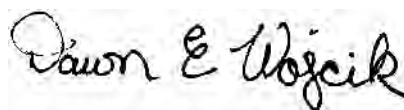
Project: BTAT LLC Superfund Site - Franklin, MA
Project #: 1515.20

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393



Authorized by:
Dawn Wojcik
Laboratory Director



Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.

Please note that this report contains 29 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our Quality web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

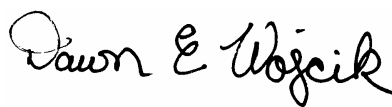
Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC51315
Project: BTAT LLC Superfund Site - Franklin, MA
Project Number: 1515.20

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SC51315-01	CDW-S53A	Soil	19-Oct-18 10:40	22-Oct-18 13:50
SC51315-02	CDW-S53B	Soil	19-Oct-18 10:42	22-Oct-18 13:50
SC51315-03	CDW-S54A	Soil	19-Oct-18 10:50	22-Oct-18 13:50
SC51315-04	CDW-S54B	Soil	19-Oct-18 10:55	22-Oct-18 13:50
SC51315-05	CDW-S55A	Soil	19-Oct-18 11:05	22-Oct-18 13:50
SC51315-06	CDW-S55B	Soil	19-Oct-18 11:15	22-Oct-18 13:50
SC51315-07	CDW-S56	Soil	19-Oct-18 13:00	22-Oct-18 13:50
SC51315-08	CDW-S56 Dup	Soil	19-Oct-18 13:00	22-Oct-18 13:50
SC51315-09	CDW-S57	Soil	19-Oct-18 13:15	22-Oct-18 13:50
SC51315-10	CDW-S57 Dup	Soil	19-Oct-18 13:15	22-Oct-18 13:50
SC51315-11	CDW-S58	Soil	19-Oct-18 13:30	22-Oct-18 13:50
SC51315-12	CDW-S58 Dup	Soil	19-Oct-18 13:30	22-Oct-18 13:50
SC51315-13	CDW-S59	Soil	19-Oct-18 13:40	22-Oct-18 13:50
SC51315-14	CDW-S59 Dup	Soil	19-Oct-18 13:40	22-Oct-18 13:50

MassDEP Analytical Protocol Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.			Project #: 1515.20		
Project Location: BTAT LLC Superfund Site - Franklin, MA			RTN:		
This form provides certifications for the following data set:			SC51315-01 through SC51315-14		
Matrices: Soil					
CAM Protocol					
8260 VOC CAM II A	✓ 7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
✓ 6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	✓ 9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B
<i>Affirmative responses to questions A through F are required for Presumptive Certainty's status</i>					
A	Were all samples received in a condition consistent with those described on the Chain of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?				✓ Yes No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?				✓ Yes No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?				✓ Yes No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?				✓ Yes No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?				Yes No Yes No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to questions A through E)?				✓ Yes No
<i>Responses to questions G, H and I below are required for Presumptive Certainty's status</i>					
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?				Yes ✓ No
Data User Note: Data that achieve <i>Presumptive Certainty's status</i> may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.					
H	Were all QC performance standards specified in the CAM protocol(s) achieved?				Yes ✓ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?				Yes ✓ No
<i>All negative responses are addressed in a case narrative on the cover page of this report.</i>					
<p><i>I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.</i></p> <div style="text-align: right; margin-top: 20px;">  Dawn E. Wojcik Laboratory Director Date: 10/29/2018 </div>					

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 0.9 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 6010C

Spikes:

1814137-MS1 *Source: SC51315-01*

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Lead

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Barium

Silver

1814137-MSD1 *Source: SC51315-01*

RPD out of acceptance range. The batch is accepted based upon LCS and/or LCSD recovery.

Barium

Lead

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Lead

The spike recovery was outside of QC acceptance limits for the MS, MSD and/or PS due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.

Barium

1814137-PS1 *Source: SC51315-01*

SW846 6010C

Spikes:

1814137-PS1 *Source: SC51315-01*

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Lead

Duplicates:

1814137-DUP1 *Source: SC51315-01*

Analyses are not controlled on RPD values from sample concentrations that are less than 5 times the reporting level. The batch is accepted based upon the difference between the sample and duplicate is less than or equal to the reporting limit.

Antimony
Arsenic
Cadmium
Chromium
Selenium

RPD out of acceptance range. The batch is accepted based upon LCS and/or LCSD recovery.

Barium
Lead

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Lead

Samples:

SC51315-01 *CDW-S53A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Lead

SC51315-05 *CDW-S55A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Lead

SW846 7471B

Spikes:

1814138-MS1 *Source: SC51315-01*

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Mercury

1814138-MSD1 *Source: SC51315-01*

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Mercury

Duplicates:

1814138-DUP1 *Source: SC51315-01*

SW846 7471B

Duplicates:

1814138-DUP1 *Source: SC51315-01*

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Mercury

Samples:

SC51315-01 *CDW-S53A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51315-02 *CDW-S53B*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51315-05 *CDW-S55A*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51315-11 *CDW-S58*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51315-12 *CDW-S58 Dup*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SW846 9012B

Spikes:

1814211-MS1 *Source: SC51315-08*

The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.

Cyanide (total)

1814211-MSD1 *Source: SC51315-08*

The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.

Cyanide (total)

Sample Acceptance Check Form

Client: CDW Consultants, Inc.
Project: BTAT LLC Superfund Site - Franklin, MA / 1515.20
Work Order: SC51315
Sample(s) received on: 10/22/2018

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Were custody seals present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were custody seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Were samples received at a temperature of $\leq 6^{\circ}\text{C}$?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples refrigerated upon transfer to laboratory representative?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were sample containers received intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples accompanied by a Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did sample container labels agree with Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples received within method-specific holding times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Summary of Hits

Lab ID: SC51315-01

Client ID: CDW-S53A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	21.9		9.47	mg/kg	SW846 6010C
Arsenic	12.4		2.84	mg/kg	SW846 6010C
Barium	916		1.89	mg/kg	SW846 6010C
Cadmium	3.49		0.947	mg/kg	SW846 6010C
Chromium	17.1		1.89	mg/kg	SW846 6010C
Lead	9210	GS1, D28.4		mg/kg	SW846 6010C
Mercury	39.5	D, GS12.84		mg/kg	SW846 7471B

Lab ID: SC51315-02

Client ID: CDW-S53B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	17.8		7.54	mg/kg	SW846 6010C
Arsenic	11.2		2.26	mg/kg	SW846 6010C
Barium	709		1.51	mg/kg	SW846 6010C
Cadmium	5.73		0.754	mg/kg	SW846 6010C
Chromium	19.2		1.51	mg/kg	SW846 6010C
Lead	5120		2.26	mg/kg	SW846 6010C
Mercury	6.52	D, GS10.464		mg/kg	SW846 7471B

Lab ID: SC51315-03

Client ID: CDW-S54A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Barium	49.4		1.18	mg/kg	SW846 6010C
Chromium	6.87		1.18	mg/kg	SW846 6010C
Lead	74.9		1.77	mg/kg	SW846 6010C
Mercury	0.0570		0.0375	mg/kg	SW846 7471B

Lab ID: SC51315-04

Client ID: CDW-S54B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	2.25		1.99	mg/kg	SW846 6010C
Barium	62.9		1.32	mg/kg	SW846 6010C
Chromium	9.70		1.32	mg/kg	SW846 6010C
Lead	50.8		1.99	mg/kg	SW846 6010C

Lab ID: SC51315-05

Client ID: CDW-S55A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	112		21.2	mg/kg	SW846 6010C
Arsenic	65.1		6.35	mg/kg	SW846 6010C
Barium	7670		4.24	mg/kg	SW846 6010C
Cadmium	14.0		2.12	mg/kg	SW846 6010C
Chromium	22.6		4.24	mg/kg	SW846 6010C
Lead	25800	D, GS131.8		mg/kg	SW846 6010C
Mercury	20.1	D, GS12.45		mg/kg	SW846 7471B

Lab ID: SC51315-06**Client ID:** CDW-S55B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	3.02		2.18	mg/kg	SW846 6010C
Barium	314		1.45	mg/kg	SW846 6010C
Chromium	6.38		1.45	mg/kg	SW846 6010C
Lead	1280		2.18	mg/kg	SW846 6010C
Mercury	0.626		0.0391	mg/kg	SW846 7471B

Lab ID: SC51315-07**Client ID:** CDW-S56

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Barium	72.9		1.36	mg/kg	SW846 6010C
Chromium	15.9		1.36	mg/kg	SW846 6010C
Lead	26.8		2.04	mg/kg	SW846 6010C
Mercury	0.158		0.0382	mg/kg	SW846 7471B

Lab ID: SC51315-08**Client ID:** CDW-S56 Dup

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Barium	101		1.41	mg/kg	SW846 6010C
Chromium	21.9		1.41	mg/kg	SW846 6010C
Lead	23.6		2.12	mg/kg	SW846 6010C
Mercury	0.0940		0.0401	mg/kg	SW846 7471B

Lab ID: SC51315-09**Client ID:** CDW-S57

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Barium	48.5		1.11	mg/kg	SW846 6010C
Chromium	10.0		1.11	mg/kg	SW846 6010C
Lead	8.19		1.66	mg/kg	SW846 6010C

Lab ID: SC51315-10**Client ID:** CDW-S57 Dup

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Barium	54.9		1.12	mg/kg	SW846 6010C
Chromium	11.2		1.12	mg/kg	SW846 6010C
Lead	10.9		1.68	mg/kg	SW846 6010C

Lab ID: SC51315-11**Client ID:** CDW-S58

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	18.7		13.3	mg/kg	SW846 6010C
Arsenic	15.7		3.98	mg/kg	SW846 6010C
Barium	1880		2.66	mg/kg	SW846 6010C
Cadmium	3.61		1.33	mg/kg	SW846 6010C
Chromium	14.7		2.66	mg/kg	SW846 6010C
Lead	9430		3.98	mg/kg	SW846 6010C
Mercury	7.18	D, GS10.710		mg/kg	SW846 7471B

Lab ID: SC51315-12**Client ID:** CDW-S58 Dup

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	27.2		16.8	mg/kg	SW846 6010C
Arsenic	25.8		5.05	mg/kg	SW846 6010C
Barium	1470		3.37	mg/kg	SW846 6010C
Cadmium	4.73		1.68	mg/kg	SW846 6010C
Chromium	20.0		3.37	mg/kg	SW846 6010C
Lead	13100		5.05	mg/kg	SW846 6010C
Mercury	5.66	D, GS	10.465	mg/kg	SW846 7471B

Lab ID: SC51315-13**Client ID:** CDW-S59

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Barium	37.2		1.51	mg/kg	SW846 6010C
Chromium	7.87		1.51	mg/kg	SW846 6010C
Lead	29.2		2.27	mg/kg	SW846 6010C

Lab ID: SC51315-14**Client ID:** CDW-S59 Dup

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Barium	71.3		1.70	mg/kg	SW846 6010C
Chromium	8.77		1.70	mg/kg	SW846 6010C
Lead	242		2.55	mg/kg	SW846 6010C
Mercury	0.0928		0.0494	mg/kg	SW846 7471B

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification

CDW-S53A

SC51315-01

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

19-Oct-18 10:40

Received

22-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3050B</u>													
7440-22-4	Silver	< 2.84		mg/kg dry	2.84	0.307	1	SW846 6010C	25-Oct-18	27-Oct-18	SC/EDT	1814137	
7440-38-2	Arsenic	12.4		mg/kg dry	2.84	0.360	1	"	"	"	"	"	
7440-39-3	Barium	916		mg/kg dry	1.89	0.224	1	"	"	"	"	"	
7440-43-9	Cadmium	3.49		mg/kg dry	0.947	0.0491	1	"	"	"	"	"	
7440-47-3	Chromium	17.1		mg/kg dry	1.89	0.252	1	"	"	29-Oct-18	"	"	
7439-97-6	Mercury	39.5	D, GS1	mg/kg dry	2.84	0.789	50	SW846 7471B	"	26-Oct-18	ABW	1814138	
<u>Prepared by method SW846 3050B</u>													
7439-92-1	Lead	9,210	GS1, D	mg/kg dry	28.4	4.02	10	SW846 6010C	"	29-Oct-18	SC/TBC	1814137	
7440-36-0	Antimony	21.9		mg/kg dry	9.47	0.712	1	"	"	27-Oct-18	"	"	
7782-49-2	Selenium	< 2.84		mg/kg dry	2.84	0.542	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	51.0		%			1	SM2540 G (11) Mod.	23-Oct-18	23-Oct-18	BD	1814025	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.615		mg/kg dry	0.615	0.486	1	SW846 9012B	26-Oct-18	26-Oct-18	RLT	1814211	

Sample Identification

CDW-S53B

SC51315-02

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

19-Oct-18 10:42

Received

22-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3050B</u>													
7440-22-4	Silver	< 2.26		mg/kg dry	2.26	0.244	1	SW846 6010C	25-Oct-18	27-Oct-18	SC/EDT	1814137	
7440-38-2	Arsenic	11.2		mg/kg dry	2.26	0.287	1	"	"	"	"	"	
7440-39-3	Barium	709		mg/kg dry	1.51	0.178	1	"	"	"	"	"	
7440-43-9	Cadmium	5.73		mg/kg dry	0.754	0.0391	1	"	"	"	"	"	
7440-47-3	Chromium	19.2		mg/kg dry	1.51	0.201	1	"	"	29-Oct-18	"	"	
7439-97-6	Mercury	6.52	D, GS1	mg/kg dry	0.464	0.129	10	SW846 7471B	"	26-Oct-18	ABW	1814138	
<u>Prepared by method SW846 3050B</u>													
7439-92-1	Lead	5,120		mg/kg dry	2.26	0.320	1	SW846 6010C	"	27-Oct-18	SC/EDT	1814137	
7440-36-0	Antimony	17.8		mg/kg dry	7.54	0.567	1	"	"	"	"	"	
7782-49-2	Selenium	< 2.26		mg/kg dry	2.26	0.432	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	63.3		%			1	SM2540 G (11) Mod.	23-Oct-18	23-Oct-18	BD	1814025	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.473		mg/kg dry	0.473	0.374	1	SW846 9012B	26-Oct-18	26-Oct-18	RLT	1814211	

Sample Identification

CDW-S54A

SC51315-03

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

19-Oct-18 10:50

Received

22-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 1.77		mg/kg dry	1.77	0.191	1	SW846 6010C	25-Oct-18	27-Oct-18	SC/EDT	1814137	
7440-38-2	Arsenic	< 1.77		mg/kg dry	1.77	0.224	1	"	"	"	"	"	
7440-39-3	Barium	49.4		mg/kg dry	1.18	0.139	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.589		mg/kg dry	0.589	0.0305	1	"	"	"	"	"	
7440-47-3	Chromium	6.87		mg/kg dry	1.18	0.157	1	"	"	29-Oct-18	"	"	
7439-97-6	Mercury	0.0570		mg/kg dry	0.0375	0.0104	1	SW846 7471B	"	26-Oct-18	ABW	1814138	

Prepared by method SW846 3050B

7439-92-1	Lead	74.9		mg/kg dry	1.77	0.250	1	SW846 6010C	"	27-Oct-18	SC/EDT	1814137	
7440-36-0	Antimony	< 5.89		mg/kg dry	5.89	0.443	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.77		mg/kg dry	1.77	0.337	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	78.3		%			1	SM2540 G (11) Mod.	23-Oct-18	23-Oct-18	BD	1814025	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.414		mg/kg dry	0.414	0.327	1	SW846 9012B	26-Oct-18	26-Oct-18	RLT	1814211	
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Sample Identification

CDW-S54B

SC51315-04

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

19-Oct-18 10:55

Received

22-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 1.99		mg/kg dry	1.99	0.215	1	SW846 6010C	25-Oct-18	27-Oct-18	SC/EDT	1814137	
7440-38-2	Arsenic	2.25		mg/kg dry	1.99	0.252	1	"	"	"	"	"	
7440-39-3	Barium	62.9		mg/kg dry	1.32	0.156	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.662		mg/kg dry	0.662	0.0343	1	"	"	"	"	"	
7440-47-3	Chromium	9.70		mg/kg dry	1.32	0.176	1	"	"	29-Oct-18	"	"	
7439-97-6	Mercury	< 0.0385		mg/kg dry	0.0385	0.0107	1	SW846 7471B	"	26-Oct-18	ABW	1814138	

Prepared by method SW846 3050B

7439-92-1	Lead	50.8		mg/kg dry	1.99	0.281	1	SW846 6010C	"	27-Oct-18	SC/EDT	1814137	
7440-36-0	Antimony	< 6.62		mg/kg dry	6.62	0.498	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.99		mg/kg dry	1.99	0.379	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	70.3		%			1	SM2540 G (11) Mod.	23-Oct-18	23-Oct-18	BD	1814025	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.457		mg/kg dry	0.457	0.361	1	SW846 9012B	26-Oct-18	26-Oct-18	RLT	1814211	
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Sample Identification

CDW-S55A

SC51315-05

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

19-Oct-18 11:05

Received

22-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 6.35		mg/kg dry	6.35	0.686	1	SW846 6010C	25-Oct-18	27-Oct-18	SC/EDT	1814137	
7440-38-2	Arsenic	65.1		mg/kg dry	6.35	0.805	1	"	"	"	"	"	
7440-39-3	Barium	7,670		mg/kg dry	4.24	0.500	1	"	"	"	"	"	
7440-43-9	Cadmium	14.0		mg/kg dry	2.12	0.110	1	"	"	"	"	"	
7440-47-3	Chromium	22.6		mg/kg dry	4.24	0.563	1	"	"	29-Oct-18	"	"	
7439-97-6	Mercury	20.1	D, GS1	mg/kg dry	2.45	0.680	20	SW846 7471B	"	26-Oct-18	ABW	1814138	

Prepared by method SW846 3050B

7439-92-1	Lead	25,800	D, GS1	mg/kg dry	31.8	4.49	5	SW846 6010C	"	29-Oct-18	SC/TBC	1814137	
7440-36-0	Antimony	112		mg/kg dry	21.2	1.59	1	"	"	27-Oct-18	"	"	
7782-49-2	Selenium	< 6.35		mg/kg dry	6.35	1.21	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	21.7			%			1	SM2540 G (11) Mod.	23-Oct-18	23-Oct-18	BD	1814025	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 1.66		mg/kg dry	1.66	1.31	1	SW846 9012B	26-Oct-18	26-Oct-18	RLT	1814211	
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Sample Identification

CDW-S55B

SC51315-06

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

19-Oct-18 11:15

Received

22-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3050B</u>													
7440-22-4	Silver	< 2.18		mg/kg dry	2.18	0.235	1	SW846 6010C	25-Oct-18	27-Oct-18	SC/EDT	1814137	
7440-38-2	Arsenic	3.02		mg/kg dry	2.18	0.276	1	"	"	"	"	"	
7440-39-3	Barium	314		mg/kg dry	1.45	0.171	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.726		mg/kg dry	0.726	0.0376	1	"	"	"	"	"	
7440-47-3	Chromium	6.38		mg/kg dry	1.45	0.193	1	"	"	29-Oct-18	"	"	
7439-97-6	Mercury	0.626		mg/kg dry	0.0391	0.0109	1	SW846 7471B	"	26-Oct-18	ABW	1814138	
<u>Prepared by method SW846 3050B</u>													
7439-92-1	Lead	1,280		mg/kg dry	2.18	0.308	1	SW846 6010C	"	27-Oct-18	SC/EDT	1814137	
7440-36-0	Antimony	< 7.26		mg/kg dry	7.26	0.546	1	"	"	"	"	"	
7782-49-2	Selenium	< 2.18		mg/kg dry	2.18	0.415	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	68.6		%			1	SM2540 G (11) Mod.	23-Oct-18	23-Oct-18	BD	1814025	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.409		mg/kg dry	0.409	0.323	1	SW846 9012B	26-Oct-18	26-Oct-18	RLT	1814211	

This laboratory report is not valid without an authorized signature on the cover page.

Sample Identification

CDW-S56	<u>Client Project #</u>	<u>Matrix</u>	<u>Collection Date/Time</u>	<u>Received</u>
SC51315-07	1515.20	Soil	19-Oct-18 13:00	22-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 2.04		mg/kg dry	2.04	0.220	1	SW846 6010C	25-Oct-18	27-Oct-18	SC/EDT	1814137	
7440-38-2	Arsenic	< 2.04		mg/kg dry	2.04	0.258	1	"	"	"	"	"	
7440-39-3	Barium	72.9		mg/kg dry	1.36	0.160	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.680		mg/kg dry	0.680	0.0352	1	"	"	"	"	"	
7440-47-3	Chromium	15.9		mg/kg dry	1.36	0.181	1	"	"	29-Oct-18	"	"	
7439-97-6	Mercury	0.158		mg/kg dry	0.0382	0.0106	1	SW846 7471B	"	26-Oct-18	ABW	1814138	

Prepared by method SW846 3050B

7439-92-1	Lead	26.8		mg/kg dry	2.04	0.288	1	SW846 6010C	"	27-Oct-18	SC/EDT	1814137	
7440-36-0	Antimony	< 6.80		mg/kg dry	6.80	0.511	1	"	"	"	"	"	
7782-49-2	Selenium	< 2.04		mg/kg dry	2.04	0.389	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	69.9			%			1	SM2540 G (11) Mod.	23-Oct-18	23-Oct-18	BD	1814025	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.534		mg/kg dry	0.534	0.422	1	SW846 9012B	26-Oct-18	26-Oct-18	RLT	1814211	
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Sample Identification

CDW-S56 Dup

SC51315-08

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

19-Oct-18 13:00

Received

22-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 2.12		mg/kg dry	2.12	0.229	1	SW846 6010C	25-Oct-18	27-Oct-18	SC/EDT	1814137	
7440-38-2	Arsenic	< 2.12		mg/kg dry	2.12	0.269	1	"	"	"	"	"	
7440-39-3	Barium	101		mg/kg dry	1.41	0.167	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.707		mg/kg dry	0.707	0.0366	1	"	"	"	"	"	
7440-47-3	Chromium	21.9		mg/kg dry	1.41	0.188	1	"	"	"	"	"	
7439-97-6	Mercury	0.0940		mg/kg dry	0.0401	0.0111	1	SW846 7471B	"	26-Oct-18	ABW	1814138	

Prepared by method SW846 3050B

7439-92-1	Lead	23.6		mg/kg dry	2.12	0.300	1	SW846 6010C	"	27-Oct-18	SC/EDT	1814137	
7440-36-0	Antimony	< 7.07		mg/kg dry	7.07	0.532	1	"	"	"	"	"	
7782-49-2	Selenium	< 2.12		mg/kg dry	2.12	0.405	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	68.1		%				1	SM2540 G (11) Mod.	23-Oct-18	23-Oct-18	BD	1814025	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.584		mg/kg dry	0.584	0.462	1	SW846 9012B	26-Oct-18	26-Oct-18	RLT	1814211	
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Sample Identification

CDW-S57	<u>Client Project #</u>	<u>Matrix</u>	<u>Collection Date/Time</u>	<u>Received</u>
SC51315-09	1515.20	Soil	19-Oct-18 13:15	22-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 1.66		mg/kg dry	1.66	0.180	1	SW846 6010C	25-Oct-18	27-Oct-18	SC/EDT	1814137	
7440-38-2	Arsenic	< 1.66		mg/kg dry	1.66	0.211	1	"	"	"	"	"	
7440-39-3	Barium	48.5		mg/kg dry	1.11	0.131	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.554		mg/kg dry	0.554	0.0287	1	"	"	"	"	"	
7440-47-3	Chromium	10.0		mg/kg dry	1.11	0.147	1	"	"	"	"	"	
7439-97-6	Mercury	< 0.0343		mg/kg dry	0.0343	0.0095	1	SW846 7471B	"	26-Oct-18	ABW	1814138	

Prepared by method SW846 3050B

7439-92-1	Lead	8.19		mg/kg dry	1.66	0.235	1	SW846 6010C	"	27-Oct-18	SC/EDT	1814137	
7440-36-0	Antimony	< 5.54		mg/kg dry	5.54	0.417	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.66		mg/kg dry	1.66	0.317	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	85.3			%			1	SM2540 G (11) Mod.	23-Oct-18	23-Oct-18	BD	1814026	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.375		mg/kg dry	0.375	0.297	1	SW846 9012B	26-Oct-18	26-Oct-18	RLT	1814211	
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Sample Identification

CDW-S57 Dup

SC51315-10

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

19-Oct-18 13:15

Received

22-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3050B</u>													
7440-22-4	Silver	< 1.68		mg/kg dry	1.68	0.181	1	SW846 6010C	25-Oct-18	27-Oct-18	SC/EDT	1814137	
7440-38-2	Arsenic	< 1.68		mg/kg dry	1.68	0.212	1	"	"	"	"	"	
7440-39-3	Barium	54.9		mg/kg dry	1.12	0.132	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.559		mg/kg dry	0.559	0.0290	1	"	"	"	"	"	
7440-47-3	Chromium	11.2		mg/kg dry	1.12	0.149	1	"	"	"	"	"	
7439-97-6	Mercury	< 0.0315		mg/kg dry	0.0315	0.0088	1	SW846 7471B	"	26-Oct-18	ABW	1814138	
<u>Prepared by method SW846 3050B</u>													
7439-92-1	Lead	10.9		mg/kg dry	1.68	0.237	1	SW846 6010C	"	27-Oct-18	SC/EDT	1814137	
7440-36-0	Antimony	< 5.59		mg/kg dry	5.59	0.420	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.68		mg/kg dry	1.68	0.320	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	82.9		%			1	SM2540 G (11) Mod.	23-Oct-18	23-Oct-18	BD	1814026	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.382		mg/kg dry	0.382	0.301	1	SW846 9012B	26-Oct-18	26-Oct-18	RLT	1814211	

Sample Identification

CDW-S58	<u>Client Project #</u>	<u>Matrix</u>	<u>Collection Date/Time</u>	<u>Received</u>
SC51315-11	1515.20	Soil	19-Oct-18 13:30	22-Oct-18

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 3.98		mg/kg dry	3.98	0.430	1	SW846 6010C	25-Oct-18	27-Oct-18	SC/EDT	1814137	
7440-38-2	Arsenic	15.7		mg/kg dry	3.98	0.505	1	"	"	"	"	"	
7440-39-3	Barium	1,880		mg/kg dry	2.66	0.313	1	"	"	"	"	"	
7440-43-9	Cadmium	3.61		mg/kg dry	1.33	0.0688	1	"	"	"	"	"	
7440-47-3	Chromium	14.7		mg/kg dry	2.66	0.353	1	"	"	"	"	"	
7439-97-6	Mercury	7.18	D, GS1	mg/kg dry	0.710	0.197	10	SW846 7471B	"	26-Oct-18	ABW	1814138	

Prepared by method SW846 3050B

7439-92-1	Lead	9,430		mg/kg dry	3.98	0.563	1	SW846 6010C	"	27-Oct-18	SC/EDT	1814137	
7440-36-0	Antimony	18.7		mg/kg dry	13.3	0.999	1	"	"	"	"	"	
7782-49-2	Selenium	< 3.98		mg/kg dry	3.98	0.760	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	37.4		%				1	SM2540 G (11) Mod.	23-Oct-18	23-Oct-18	BD	1814026	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 1.07		mg/kg dry	1.07	0.846	1	SW846 9012B	26-Oct-18	26-Oct-18	RLT	1814211	
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Sample Identification**CDW-S58 Dup**

SC51315-12

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

19-Oct-18 13:30

Received

22-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3050B</u>													
7440-22-4	Silver	< 5.05		mg/kg dry	5.05	0.545	1	SW846 6010C	25-Oct-18	27-Oct-18	SC/EDT	1814137	
7440-38-2	Arsenic	25.8		mg/kg dry	5.05	0.639	1	"	"	"	"	"	
7440-39-3	Barium	1,470		mg/kg dry	3.37	0.397	1	"	"	"	"	"	
7440-43-9	Cadmium	4.73		mg/kg dry	1.68	0.0872	1	"	"	"	"	"	
7440-47-3	Chromium	20.0		mg/kg dry	3.37	0.448	1	"	"	"	"	"	
7439-97-6	Mercury	5.66	D, GS1	mg/kg dry	0.465	0.129	5	SW846 7471B	"	26-Oct-18	ABW	1814138	
<u>Prepared by method SW846 3050B</u>													
7439-92-1	Lead	13,100		mg/kg dry	5.05	0.714	1	SW846 6010C	"	27-Oct-18	SC/EDT	1814137	
7440-36-0	Antimony	27.2		mg/kg dry	16.8	1.27	1	"	"	"	"	"	
7782-49-2	Selenium	< 5.05		mg/kg dry	5.05	0.963	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	29.5		%			1	SM2540 G (11) Mod.	23-Oct-18	23-Oct-18	BD	1814026	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 1.13		mg/kg dry	1.13	0.890	1	SW846 9012B	26-Oct-18	26-Oct-18	RLT	1814211	

Sample Identification

CDW-S59	<u>Client Project #</u>	<u>Matrix</u>	<u>Collection Date/Time</u>	<u>Received</u>
SC51315-13	1515.20	Soil	19-Oct-18 13:40	22-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 2.27		mg/kg dry	2.27	0.245	1	SW846 6010C	25-Oct-18	27-Oct-18	SC/EDT	1814137	
7440-38-2	Arsenic	< 2.27		mg/kg dry	2.27	0.287	1	"	"	"	"	"	
7440-39-3	Barium	37.2		mg/kg dry	1.51	0.178	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.756		mg/kg dry	0.756	0.0392	1	"	"	"	"	"	
7440-47-3	Chromium	7.87		mg/kg dry	1.51	0.201	1	"	"	"	"	"	
7439-97-6	Mercury	< 0.0474		mg/kg dry	0.0474	0.0132	1	SW846 7471B	"	26-Oct-18	ABW	1814138	

Prepared by method SW846 3050B

7439-92-1	Lead	29.2		mg/kg dry	2.27	0.321	1	SW846 6010C	"	27-Oct-18	SC/EDT	1814137	
7440-36-0	Antimony	< 7.56		mg/kg dry	7.56	0.569	1	"	"	"	"	"	
7782-49-2	Selenium	< 2.27		mg/kg dry	2.27	0.433	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	61.3			%			1	SM2540 G (11) Mod.	23-Oct-18	23-Oct-18	BD	1814026	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.563		mg/kg dry	0.563	0.445	1	SW846 9012B	26-Oct-18	26-Oct-18	RLT	1814216	
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Sample Identification

CDW-S59 Dup

SC51315-14

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

19-Oct-18 13:40

Received

22-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 2.55		mg/kg dry	2.55	0.276	1	SW846 6010C	25-Oct-18	27-Oct-18	SC/EDT	1814137	
7440-38-2	Arsenic	< 2.55		mg/kg dry	2.55	0.323	1	"	"	"	"	"	
7440-39-3	Barium	71.3		mg/kg dry	1.70	0.201	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.851		mg/kg dry	0.851	0.0441	1	"	"	"	"	"	
7440-47-3	Chromium	8.77		mg/kg dry	1.70	0.226	1	"	"	"	"	"	
7439-97-6	Mercury	0.0928		mg/kg dry	0.0494	0.0137	1	SW846 7471B	"	26-Oct-18	ABW	1814138	

Prepared by method SW846 3050B

7439-92-1	Lead	242		mg/kg dry	2.55	0.361	1	SW846 6010C	"	27-Oct-18	SC/EDT	1814137	
7440-36-0	Antimony	< 8.51		mg/kg dry	8.51	0.640	1	"	"	"	"	"	
7782-49-2	Selenium	< 2.55		mg/kg dry	2.55	0.487	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	56.0			%			1	SM2540 G (11) Mod.	23-Oct-18	23-Oct-18	BD	1814026	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.617		mg/kg dry	0.617	0.488	1	SW846 9012B	26-Oct-18	26-Oct-18	RLT	1814216	
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Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW846 6010C</u>										
Batch 1814137 - SW846 3050B										
<u>Blank (1814137-BLK1)</u>					<u>Prepared: 25-Oct-18 Analyzed: 27-Oct-18</u>					
Silver	< 1.41		mg/kg wet	1.41						
Arsenic	< 1.41		mg/kg wet	1.41						
Cadmium	< 0.470		mg/kg wet	0.470						
Lead	< 1.41		mg/kg wet	1.41						
Antimony	< 4.70		mg/kg wet	4.70						
Selenium	< 1.41		mg/kg wet	1.41						
Chromium	< 0.940		mg/kg wet	0.940						
Barium	< 0.940		mg/kg wet	0.940						
<u>Duplicate (1814137-DUP1)</u>					<u>Source: SC51315-01</u>		<u>Prepared: 25-Oct-18 Analyzed: 27-Oct-18</u>			
Selenium	1.33	J,QR8	mg/kg dry	2.94		0.786			51	20
Silver	0.343	J	mg/kg dry	2.94		BRL				20
Arsenic	19.9	QR8	mg/kg dry	2.94		12.4			46	20
Antimony	41.3	QR8	mg/kg dry	9.79		21.9			62	20
Lead	17200	GS1, QR9, D	mg/kg dry	29.4		9210			60	20
Chromium	21.1	QR8	mg/kg dry	1.96		17.1			21	20
Cadmium	7.89	QR8	mg/kg dry	0.979		3.49			77	20
Barium	1580	QR9	mg/kg dry	1.96		916			53	20
<u>Matrix Spike (1814137-MS1)</u>					<u>Source: SC51315-01</u>		<u>Prepared: 25-Oct-18 Analyzed: 27-Oct-18</u>			
Silver	157	QM7	mg/kg dry	2.90	242	BRL	65	75-125		
Arsenic	250		mg/kg dry	2.90	242	12.4	98	75-125		
Cadmium	225		mg/kg dry	0.968	242	3.49	91	75-125		
Antimony	261		mg/kg dry	9.68	242	21.9	99	75-125		
Selenium	230		mg/kg dry	2.90	242	0.786	95	75-125		
Lead	15900	QM2, D	mg/kg dry	29.0	242	9210	2760	75-125		
Chromium	242		mg/kg dry	1.94	242	17.1	93	75-125		
Barium	2280	QM7	mg/kg dry	1.94	242	916	564	75-125		
<u>Matrix Spike Dup (1814137-MSD1)</u>					<u>Source: SC51315-01</u>		<u>Prepared: 25-Oct-18 Analyzed: 27-Oct-18</u>			
Antimony	243		mg/kg dry	9.11	228	21.9	97	75-125	7	20
Silver	176		mg/kg dry	2.73	228	BRL	77	75-125	12	20
Arsenic	234		mg/kg dry	2.73	228	12.4	97	75-125	6	20
Cadmium	209		mg/kg dry	0.911	228	3.49	90	75-125	7	20
Selenium	220		mg/kg dry	2.73	228	0.786	96	75-125	5	20
Chromium	281		mg/kg dry	1.82	228	17.1	116	75-125	15	20
Lead	10800	QM2, QR9, D	mg/kg dry	27.3	228	9210	681	75-125	38	20
Barium	1710	QM4X, QR9	mg/kg dry	1.82	228	916	347	75-125	29	20
<u>Post Spike (1814137-PS1)</u>					<u>Source: SC51315-01</u>		<u>Prepared: 25-Oct-18 Analyzed: 27-Oct-18</u>			
Arsenic	241		mg/kg dry	2.84	237	12.4	97	80-120		
Cadmium	219		mg/kg dry	0.947	237	3.49	91	80-120		
Antimony	248		mg/kg dry	9.47	237	21.9	95	80-120		
Selenium	232		mg/kg dry	2.84	237	0.786	98	80-120		
Lead	8790	QM2, D	mg/kg dry	28.4	237	9210	-179	80-120		
Chromium	241		mg/kg dry	1.89	237	17.1	95	80-120		
<u>Reference (1814137-SRM1)</u>					<u>Prepared: 25-Oct-18 Analyzed: 27-Oct-18</u>					
Silver	18.8		mg/kg wet	1.50	21.9		86	79.9-119.9		
Selenium	93.2		mg/kg wet	1.50	96.7		96	79.6-120.9		
Antimony	60.2		mg/kg wet	5.00	38.2		158	25-196		
Lead	51.8		mg/kg wet	1.50	56.2		92	83-117.1		

This laboratory report is not valid without an authorized signature on the cover page.

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW846 6010C</u>										
Batch 1814137 - SW846 3050B										
<u>Reference (1814137-SRM1)</u>	<u>Prepared: 25-Oct-18 Analyzed: 27-Oct-18</u>									
Cadmium	100		mg/kg wet	0.500	107		94	83.4-116.6		
Arsenic	77.3		mg/kg wet	1.50	81.5		95	83.2-116.8		
Chromium	66.0		mg/kg wet	1.00	68.8		96	82.4-117.6		
Barium	119		mg/kg wet	1.00	132		91	82.7-117.3		
<u>Reference (1814137-SRM2)</u>	<u>Prepared: 25-Oct-18 Analyzed: 29-Oct-18</u>									
Chromium	62.3		mg/kg wet	1.00	68.1		91	82.4-117.6		
Silver	17.8		mg/kg wet	1.50	21.7		82	79.9-119.9		
Selenium	84.4		mg/kg wet	1.50	95.7		88	79.6-120.9		
Antimony	54.6		mg/kg wet	5.00	37.8		144	25-196		
Lead	47.1		mg/kg wet	1.50	55.6		85	83-117.1		
Cadmium	90.7		mg/kg wet	0.500	106		86	83.4-116.6		
Arsenic	70.3		mg/kg wet	1.50	80.7		87	83.2-116.8		
Barium	116		mg/kg wet	1.00	130		89	82.7-117.3		
<u>SW846 7471B</u>										
Batch 1814138 - EPA200/SW7000 Series										
<u>Blank (1814138-BLK1)</u>	<u>Prepared: 25-Oct-18 Analyzed: 26-Oct-18</u>									
Mercury	< 0.0265		mg/kg wet	0.0265						
<u>Duplicate (1814138-DUP1)</u>	<u>Source: SC51315-01 Prepared: 25-Oct-18 Analyzed: 26-Oct-18</u>									
Mercury	11.0	QM2, D	mg/kg dry	2.70		39.5			113	20
<u>Matrix Spike (1814138-MS1)</u>	<u>Source: SC51315-01 Prepared: 25-Oct-18 Analyzed: 26-Oct-18</u>									
Mercury	12.2	QM2, D	mg/kg dry	2.62	0.364	39.5	-7500	75-125		
<u>Matrix Spike Dup (1814138-MSD1)</u>	<u>Source: SC51315-01 Prepared: 25-Oct-18 Analyzed: 26-Oct-18</u>									
Mercury	11.1	QM2, D	mg/kg dry	2.71	0.377	39.5	-7530	75-125	9	20
<u>Post Spike (1814138-PS1)</u>	<u>Source: SC51315-01 Prepared: 25-Oct-18 Analyzed: 26-Oct-18</u>									
Mercury	59.2	D	mg/kg dry	2.84	19.7	39.5	100	80-120		
<u>Reference (1814138-SRM1)</u>	<u>Prepared: 25-Oct-18 Analyzed: 26-Oct-18</u>									
Mercury	4.66	D	mg/kg wet	0.600	3.98		117	71.6-128		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SM2540 G (11) Mod.</u>										
Batch 1814026 - General Preparation										
<u>Duplicate (1814026-DUP1)</u>										
% Solids	85.1		%			85.3			0.2	5
<u>Duplicate (1814026-DUP2)</u>										
% Solids	82.8		%			82.9			0.08	5
<u>SW846 9012B</u>										
Batch 1814211 - General Preparation										
<u>Blank (1814211-BLK1)</u>										
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>Blank (1814211-BLK2)</u>										
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>LCS (1814211-BS1)</u>										
Cyanide (total)	25.8		mg/kg wet	0.500	25.0		103	90-110		
<u>LCS (1814211-BS2)</u>										
Cyanide (total)	22.6		mg/kg wet	0.500	25.0		90	90-110		
<u>Calibration Blank (1814211-CCB1)</u>										
Cyanide (total)	0.000760		mg/kg wet							
<u>Calibration Blank (1814211-CCB2)</u>										
Cyanide (total)	0.000679		mg/kg wet							
<u>Calibration Blank (1814211-CCB3)</u>										
Cyanide (total)	0.00100		mg/kg wet							
<u>Calibration Blank (1814211-CCB4)</u>										
Cyanide (total)	0.000616		mg/kg wet							
<u>Calibration Blank (1814211-CCB5)</u>										
Cyanide (total)	0.000637		mg/kg wet							
<u>Calibration Check (1814211-CCV1)</u>										
Cyanide (total)	24.6		mg/kg wet	0.500	25.0		98	90-110		
<u>Calibration Check (1814211-CCV2)</u>										
Cyanide (total)	24.5		mg/kg wet	0.500	25.0		98	90-110		
<u>Calibration Check (1814211-CCV3)</u>										
Cyanide (total)	24.8		mg/kg wet	0.500	25.0		99	90-110		
<u>Calibration Check (1814211-CCV4)</u>										
Cyanide (total)	24.5		mg/kg wet	0.500	25.0		98	90-110		
<u>Calibration Check (1814211-CCV5)</u>										
Cyanide (total)	24.3		mg/kg wet	0.500	25.0		97	90-110		
<u>Duplicate (1814211-DUP1)</u>										
Cyanide (total)	< 0.548		mg/kg dry	0.548		BRL				35
<u>Matrix Spike (1814211-MS1)</u>										
Cyanide (total)	19.3	QM1	mg/kg dry	0.450	22.5	BRL	86	90-110		
<u>Matrix Spike Dup (1814211-MSD1)</u>										
Cyanide (total)	18.6	QM1	mg/kg dry	0.421	21.0	BRL	88	90-110	4	35
<u>Post Spike (1814211-PS1)</u>										
Cyanide (total)	0.248		mg/l		0.250	0.00147	99	75-125		
<u>Reference (1814211-SRM1)</u>										
Cyanide (total)	80.1		mg/kg wet	1.55	94.3		85	22.3-116		
Batch 1814216 - General Preparation										
<u>Blank (1814216-BLK1)</u>										
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>Blank (1814216-BLK2)</u>										

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General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW846 9012B</u>										
Batch 1814216 - General Preparation										
<u>Blank (1814216-BLK2)</u>	<u>Prepared & Analyzed: 26-Oct-18</u>									
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>LCS (1814216-BS1)</u>	<u>Prepared & Analyzed: 26-Oct-18</u>									
Cyanide (total)	23.4		mg/kg wet	0.500	25.0		94	90-110		
<u>LCS (1814216-BS2)</u>	<u>Prepared & Analyzed: 26-Oct-18</u>									
Cyanide (total)	24.0		mg/kg wet	0.500	25.0		96	90-110		
<u>Calibration Blank (1814216-CCB1)</u>	<u>Prepared & Analyzed: 26-Oct-18</u>									
Cyanide (total)	0.00100		mg/kg wet							
<u>Calibration Blank (1814216-CCB2)</u>	<u>Prepared & Analyzed: 26-Oct-18</u>									
Cyanide (total)	0.000616		mg/kg wet							
<u>Calibration Blank (1814216-CCB3)</u>	<u>Prepared & Analyzed: 26-Oct-18</u>									
Cyanide (total)	0.000637		mg/kg wet							
<u>Calibration Blank (1814216-CCB4)</u>	<u>Prepared & Analyzed: 26-Oct-18</u>									
Cyanide (total)	0.000760		mg/kg wet							
<u>Calibration Check (1814216-CCV1)</u>	<u>Prepared & Analyzed: 26-Oct-18</u>									
Cyanide (total)	24.8		mg/kg wet	0.500	25.0		99	90-110		
<u>Calibration Check (1814216-CCV2)</u>	<u>Prepared & Analyzed: 26-Oct-18</u>									
Cyanide (total)	24.5		mg/kg wet	0.500	25.0		98	90-110		
<u>Calibration Check (1814216-CCV3)</u>	<u>Prepared & Analyzed: 26-Oct-18</u>									
Cyanide (total)	24.3		mg/kg wet	0.500	25.0		97	90-110		
<u>Calibration Check (1814216-CCV4)</u>	<u>Prepared & Analyzed: 26-Oct-18</u>									
Cyanide (total)	24.4		mg/kg wet	0.500	25.0		98	90-110		
<u>Reference (1814216-SRM1)</u>	<u>Prepared & Analyzed: 26-Oct-18</u>									
Cyanide (total)	67.6		mg/kg wet	2.36	94.3		72	22.3-116		

Notes and Definitions

D	Data reported from a dilution
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
QM1	The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
QM2	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
QM4X	The spike recovery was outside of QC acceptance limits for the MS, MSD and/or PS due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QR8	Analyses are not controlled on RPD values from sample concentrations that are less than 5 times the reporting level. The batch is accepted based upon the difference between the sample and duplicate is less than or equal to the reporting limit.
QR9	RPD out of acceptance range. The batch is accepted based upon LCS and/or LCSD recovery.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Batch Summary

1814025

General Chemistry Parameters

SC51315-01 (CDW-S53A)
SC51315-02 (CDW-S53B)
SC51315-03 (CDW-S54A)
SC51315-04 (CDW-S54B)
SC51315-05 (CDW-S55A)
SC51315-06 (CDW-S55B)
SC51315-07 (CDW-S56)
SC51315-08 (CDW-S56 Dup)

1814026

General Chemistry Parameters

1814026-DUP1
1814026-DUP2
SC51315-09 (CDW-S57)
SC51315-10 (CDW-S57 Dup)
SC51315-11 (CDW-S58)
SC51315-12 (CDW-S58 Dup)
SC51315-13 (CDW-S59)
SC51315-14 (CDW-S59 Dup)

1814137

Total Metals by EPA 6000/7000 Series Methods

1814137-BLK1
1814137-DUP1
1814137-MS1
1814137-MSD1
1814137-PS1
1814137-SRM1
1814137-SRM2
SC51315-01 (CDW-S53A)
SC51315-02 (CDW-S53B)
SC51315-03 (CDW-S54A)
SC51315-04 (CDW-S54B)
SC51315-05 (CDW-S55A)
SC51315-06 (CDW-S55B)
SC51315-07 (CDW-S56)
SC51315-08 (CDW-S56 Dup)
SC51315-09 (CDW-S57)
SC51315-10 (CDW-S57 Dup)
SC51315-11 (CDW-S58)
SC51315-12 (CDW-S58 Dup)
SC51315-13 (CDW-S59)
SC51315-14 (CDW-S59 Dup)

1814138

Total Metals by EPA 6000/7000 Series Methods

1814138-BLK1
1814138-DUP1
1814138-MS1
1814138-MSD1

1814138-PS1
1814138-SRM1
SC51315-01 (CDW-S53A)
SC51315-02 (CDW-S53B)
SC51315-03 (CDW-S54A)
SC51315-04 (CDW-S54B)
SC51315-05 (CDW-S55A)
SC51315-06 (CDW-S55B)
SC51315-07 (CDW-S56)
SC51315-08 (CDW-S56 Dup)
SC51315-09 (CDW-S57)
SC51315-10 (CDW-S57 Dup)
SC51315-11 (CDW-S58)
SC51315-12 (CDW-S58 Dup)
SC51315-13 (CDW-S59)
SC51315-14 (CDW-S59 Dup)

1814211

General Chemistry Parameters

1814211-BLK1
1814211-BLK2
1814211-BS1
1814211-BS2
1814211-CCB1
1814211-CCB2
1814211-CCB3
1814211-CCB4
1814211-CCB5
1814211-CCV1
1814211-CCV2
1814211-CCV3
1814211-CCV4
1814211-CCV5
1814211-DUP1
1814211-MS1
1814211-MSD1
1814211-PS1
1814211-SRM1
SC51315-01 (CDW-S53A)
SC51315-02 (CDW-S53B)
SC51315-03 (CDW-S54A)
SC51315-04 (CDW-S54B)
SC51315-05 (CDW-S55A)
SC51315-06 (CDW-S55B)
SC51315-07 (CDW-S56)
SC51315-08 (CDW-S56 Dup)
SC51315-09 (CDW-S57)
SC51315-10 (CDW-S57 Dup)
SC51315-11 (CDW-S58)
SC51315-12 (CDW-S58 Dup)

1814216**General Chemistry Parameters**

1814216-BLK1

1814216-BLK2

1814216-BS1

1814216-BS2

1814216-CCB1

1814216-CCB2

1814216-CCB3

1814216-CCB4

1814216-CCV1

1814216-CCV2

1814216-CCV3

1814216-CCV4

1814216-SRM1

SC51315-13 (CDW-S59)

SC51315-14 (CDW-S59 Dup)

Laboratory Report SC51341

CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760
Attn: Susan Cahalan-Roach

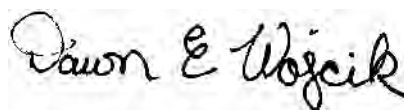
Project: BTAT LLC Superfund Site - Franklin, MA
Project #: 1515.20

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393



Authorized by:
Dawn Wojcik
Laboratory Director



Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.

Please note that this report contains 11 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our Quality web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

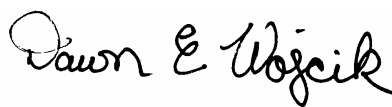
Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC51341
Project: BTAT LLC Superfund Site - Franklin, MA
Project Number: 1515.20

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SC51341-01	CDW-S60A	Soil	22-Oct-18 14:45	23-Oct-18 14:30
SC51341-02	CDW-S60B	Soil	22-Oct-18 14:48	23-Oct-18 14:30

MassDEP Analytical Protocol Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.			Project #: 1515.20		
Project Location: BTAT LLC Superfund Site - Franklin, MA			RTN:		
This form provides certifications for the following data set:			SC51341-01 through SC51341-02		
Matrices: Soil					
CAM Protocol					
8260 VOC CAM II A	✓ 7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
✓ 6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	✓ 9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B
<i>Affirmative responses to questions A through F are required for Presumptive Certainty's status</i>					
A	Were all samples received in a condition consistent with those described on the Chain of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?				✓ Yes No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?				✓ Yes No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?				✓ Yes No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?				✓ Yes No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?				Yes No Yes No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to questions A through E)?				✓ Yes No
<i>Responses to questions G, H and I below are required for Presumptive Certainty's status</i>					
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?				Yes ✓ No
Data User Note: Data that achieve Presumptive Certainty's status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.					
H	Were all QC performance standards specified in the CAM protocol(s) achieved?				Yes ✓ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?				Yes ✓ No
<i>All negative responses are addressed in a case narrative on the cover page of this report.</i>					
<p><i>I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.</i></p> <div style="text-align: right; margin-top: 20px;">  Dawn E. Wojcik Laboratory Director Date: 10/29/2018 </div>					

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 2.0 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 7471B

Samples:

SC51341-01	CDW-S60A
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Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

SC51341-02	CDW-S60B
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Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Mercury

Sample Acceptance Check Form

Client: CDW Consultants, Inc.
Project: BTAT LLC Superfund Site - Franklin, MA / 1515.20
Work Order: SC51341
Sample(s) received on: 10/23/2018

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Were custody seals present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were custody seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Were samples received at a temperature of $\leq 6^{\circ}\text{C}$?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples refrigerated upon transfer to laboratory representative?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were sample containers received intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples accompanied by a Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did sample container labels agree with Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples received within method-specific holding times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Summary of Hits

Lab ID: SC51341-01

Client ID: CDW-S60A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Antimony	30.6		16.2	mg/kg	SW846 6010C
Arsenic	23.6		4.85	mg/kg	SW846 6010C
Barium	1290		3.23	mg/kg	SW846 6010C
Cadmium	8.88		1.62	mg/kg	SW846 6010C
Chromium	19.4		3.23	mg/kg	SW846 6010C
Lead	13300		4.85	mg/kg	SW846 6010C
Mercury	11.7	GS1, D0.862		mg/kg	SW846 7471B

Lab ID: SC51341-02

Client ID: CDW-S60B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Arsenic	6.36		2.07	mg/kg	SW846 6010C
Barium	142		1.38	mg/kg	SW846 6010C
Chromium	24.8		1.38	mg/kg	SW846 6010C
Lead	1300		2.07	mg/kg	SW846 6010C
Mercury	1.38	GS1, D0.220		mg/kg	SW846 7471B

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification

CDW-S60A

SC51341-01

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

22-Oct-18 14:45

Received

23-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7440-22-4	Silver	< 4.85		mg/kg dry	4.85	0.523	1	SW846 6010C	25-Oct-18	27-Oct-18	SC/EDT	1814137	
7440-38-2	Arsenic	23.6		mg/kg dry	4.85	0.614	1	"	"	"	"	"	
7440-39-3	Barium	1,290		mg/kg dry	3.23	0.381	1	"	"	"	"	"	
7440-43-9	Cadmium	8.88		mg/kg dry	1.62	0.0837	1	"	"	"	"	"	
7440-47-3	Chromium	19.4		mg/kg dry	3.23	0.430	1	"	"	"	"	"	
7439-97-6	Mercury	11.7	GS1, D	mg/kg dry	0.862	0.239	10	SW846 7471B	"	26-Oct-18	ABW	1814138	

Prepared by method SW846 3050B

7439-92-1	Lead	13,300		mg/kg dry	4.85	0.685	1	SW846 6010C	"	27-Oct-18	SC/EDT	1814137	
7440-36-0	Antimony	30.6		mg/kg dry	16.2	1.21	1	"	"	"	"	"	
7782-49-2	Selenium	< 4.85		mg/kg dry	4.85	0.924	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	30.6		%				1	SM2540 G (11) Mod.	23-Oct-18	23-Oct-18	BD	1814063	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 1.25		mg/kg dry	1.25	0.989	1	SW846 9012B	26-Oct-18	26-Oct-18	RLT	1814216	
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Sample Identification

CDW-S60B

SC51341-02

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

22-Oct-18 14:48

Received

23-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3050B</u>													
7440-22-4	Silver	< 2.07		mg/kg dry	2.07	0.223	1	SW846 6010C	25-Oct-18	27-Oct-18	SC/EDT	1814137	
7440-38-2	Arsenic	6.36		mg/kg dry	2.07	0.262	1	"	"	"	"	"	
7440-39-3	Barium	142		mg/kg dry	1.38	0.163	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.689		mg/kg dry	0.689	0.0357	1	"	"	"	"	"	
7440-47-3	Chromium	24.8		mg/kg dry	1.38	0.183	1	"	"	"	"	"	
7439-97-6	Mercury	1.38	GS1, D	mg/kg dry	0.220	0.0610	5	SW846 7471B	"	26-Oct-18	ABW	1814138	
<u>Prepared by method SW846 3050B</u>													
7439-92-1	Lead	1,300		mg/kg dry	2.07	0.292	1	SW846 6010C	"	27-Oct-18	SC/EDT	1814137	
7440-36-0	Antimony	< 6.89		mg/kg dry	6.89	0.518	1	"	"	"	"	"	
7782-49-2	Selenium	< 2.07		mg/kg dry	2.07	0.394	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	66.4		%			1	SM2540 G (11) Mod.	23-Oct-18	23-Oct-18	BD	1814063	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.464		mg/kg dry	0.464	0.367	1	SW846 9012B	26-Oct-18	26-Oct-18	RLT	1814216	

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW846 6010C</u>										
Batch 1814137 - SW846 3050B										
<u>Blank (1814137-BLK1)</u>					<u>Prepared: 25-Oct-18 Analyzed: 27-Oct-18</u>					
Selenium	< 1.41		mg/kg wet	1.41						
Silver	< 1.41		mg/kg wet	1.41						
Arsenic	< 1.41		mg/kg wet	1.41						
Cadmium	< 0.470		mg/kg wet	0.470						
Antimony	< 4.70		mg/kg wet	4.70						
Chromium	< 0.940		mg/kg wet	0.940						
Lead	< 1.41		mg/kg wet	1.41						
Barium	< 0.940		mg/kg wet	0.940						
<u>Reference (1814137-SRM1)</u>					<u>Prepared: 25-Oct-18 Analyzed: 29-Oct-18</u>					
Chromium	66.0		mg/kg wet	1.00	68.8		96	82.4-117.6		
Silver	18.8		mg/kg wet	1.50	21.9		86	79.9-119.9		
Arsenic	77.3		mg/kg wet	1.50	81.5		95	83.2-116.8		
Cadmium	100		mg/kg wet	0.500	107		94	83.4-116.6		
Lead	51.8		mg/kg wet	1.50	56.2		92	83-117.1		
Selenium	93.2		mg/kg wet	1.50	96.7		96	79.6-120.9		
Antimony	60.2		mg/kg wet	5.00	38.2		158	25-196		
Barium	119		mg/kg wet	1.00	132		91	82.7-117.3		
<u>Reference (1814137-SRM2)</u>					<u>Prepared: 25-Oct-18 Analyzed: 27-Oct-18</u>					
Selenium	84.4		mg/kg wet	1.50	95.7		88	79.6-120.9		
Chromium	62.3		mg/kg wet	1.00	68.1		91	82.4-117.6		
Cadmium	90.7		mg/kg wet	0.500	106		86	83.4-116.6		
Lead	47.1		mg/kg wet	1.50	55.6		85	83-117.1		
Antimony	54.6		mg/kg wet	5.00	37.8		144	25-196		
Arsenic	70.3		mg/kg wet	1.50	80.7		87	83.2-116.8		
Silver	17.8		mg/kg wet	1.50	21.7		82	79.9-119.9		
Barium	116		mg/kg wet	1.00	130		89	82.7-117.3		
<u>SW846 7471B</u>										
Batch 1814138 - EPA200/SW7000 Series										
<u>Blank (1814138-BLK1)</u>					<u>Prepared: 25-Oct-18 Analyzed: 26-Oct-18</u>					
Mercury	< 0.0265		mg/kg wet	0.0265						
<u>Reference (1814138-SRM1)</u>					<u>Prepared: 25-Oct-18 Analyzed: 26-Oct-18</u>					
Mercury	4.66	D	mg/kg wet	0.600	3.98		117	71.6-128		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SM2540 G (11) Mod.</u>										
Batch 1814063 - General Preparation										
<u>Duplicate (1814063-DUP1)</u>						<u>Source: SC51341-01</u>		<u>Prepared & Analyzed: 23-Oct-18</u>		
% Solids	30.5		%			30.6			0.5	5
<u>SW846 9012B</u>										
Batch 1814216 - General Preparation										
<u>Blank (1814216-BLK1)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>Blank (1814216-BLK2)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>LCS (1814216-BS1)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	23.4		mg/kg wet	0.500	25.0		94	90-110		
<u>LCS (1814216-BS2)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	24.0		mg/kg wet	0.500	25.0		96	90-110		
<u>Calibration Blank (1814216-CCB1)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	0.00100		mg/kg wet							
<u>Calibration Blank (1814216-CCB2)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	0.000616		mg/kg wet							
<u>Calibration Blank (1814216-CCB3)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	0.000637		mg/kg wet							
<u>Calibration Blank (1814216-CCB4)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	0.000760		mg/kg wet							
<u>Calibration Check (1814216-CCV1)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	24.8		mg/kg wet	0.500	25.0		99	90-110		
<u>Calibration Check (1814216-CCV2)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	24.5		mg/kg wet	0.500	25.0		98	90-110		
<u>Calibration Check (1814216-CCV3)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	24.3		mg/kg wet	0.500	25.0		97	90-110		
<u>Calibration Check (1814216-CCV4)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	24.4		mg/kg wet	0.500	25.0		98	90-110		
<u>Reference (1814216-SRM1)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	67.6		mg/kg wet	2.36	94.3		72	22.3-116		

Notes and Definitions

D	Data reported from a dilution
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Batch Summary

1814063

General Chemistry Parameters

1814063-DUP1

SC51341-01 (CDW-S60A)

SC51341-02 (CDW-S60B)

1814137

Total Metals by EPA 6000/7000 Series Methods

1814137-BLK1

1814137-SRM1

1814137-SRM2

SC51341-01 (CDW-S60A)

SC51341-02 (CDW-S60B)

1814138

Total Metals by EPA 6000/7000 Series Methods

1814138-BLK1

1814138-SRM1

SC51341-01 (CDW-S60A)

SC51341-02 (CDW-S60B)

1814216

General Chemistry Parameters

1814216-BLK1

1814216-BLK2

1814216-BS1

1814216-BS2

1814216-CCB1

1814216-CCB2

1814216-CCB3

1814216-CCB4

1814216-CCV1

1814216-CCV2

1814216-CCV3

1814216-CCV4

1814216-SRM1

SC51341-01 (CDW-S60A)

SC51341-02 (CDW-S60B)

Report Date:
29-Oct-18 15:11

Laboratory Report SC51382

CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760
Attn: Susan Cahalan-Roach

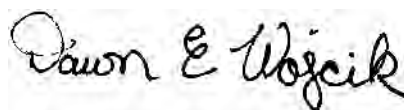
Project: BTAT LLC Superfund Site - Franklin, MA
Project #: 1515.20

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393



Authorized by:
Dawn Wojcik
Laboratory Director



Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.

Please note that this report contains 11 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our Quality web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

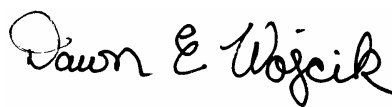
Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC51382
Project: BTAT LLC Superfund Site - Franklin, MA
Project Number: 1515.20

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SC51382-01	CDW-S61	Soil	23-Oct-18 15:45	24-Oct-18 13:40
SC51382-02	CDW-S61 Dup	Soil	23-Oct-18 15:46	24-Oct-18 13:40

MassDEP Analytical Protocol Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.			Project #: 1515.20		
Project Location: BTAT LLC Superfund Site - Franklin, MA			RTN:		
This form provides certifications for the following data set:			SC51382-01 through SC51382-02		
Matrices: Soil					
CAM Protocol					
8260 VOC CAM II A	✓ 7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
✓ 6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	✓ 9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B
<i>Affirmative responses to questions A through F are required for Presumptive Certainty's status</i>					
A	Were all samples received in a condition consistent with those described on the Chain of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?				✓ Yes No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?				✓ Yes No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?				✓ Yes No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?				✓ Yes No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?				Yes No Yes No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to questions A through E)?				✓ Yes No
<i>Responses to questions G, H and I below are required for Presumptive Certainty's status</i>					
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?				Yes ✓ No
Data User Note: Data that achieve Presumptive Certainty's status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.					
H	Were all QC performance standards specified in the CAM protocol(s) achieved?				Yes ✓ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?				Yes ✓ No
<i>All negative responses are addressed in a case narrative on the cover page of this report.</i>					
<p><i>I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.</i></p> <div style="text-align: right; margin-top: 20px;">  Dawn E. Wojcik Laboratory Director Date: 10/29/2018 </div>					

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 3.1 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 6010C

Samples:

SC51382-01 *CDW-S61*

MRL raised to correlate to batch QC reporting limits.

Lead

SC51382-02 *CDW-S61 Dup*

MRL raised to correlate to batch QC reporting limits.

Lead

SW846 9012B

Spikes:

1814216-MS1 *Source: SC51382-01*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Cyanide (total)

Sample Acceptance Check Form

Client: CDW Consultants, Inc.
Project: BTAT LLC Superfund Site - Franklin, MA / 1515.20
Work Order: SC51382
Sample(s) received on: 10/24/2018

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Were custody seals present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were custody seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Were samples received at a temperature of $\leq 6^{\circ}\text{C}$?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples refrigerated upon transfer to laboratory representative?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were sample containers received intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples accompanied by a Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did sample container labels agree with Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples received within method-specific holding times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Summary of Hits

Lab ID: SC51382-01

Client ID: CDW-S61

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Barium	28.9		1.09	mg/kg	SW846 6010C
Chromium	8.11		1.09	mg/kg	SW846 6010C
Lead	33.3	R06	9.29	mg/kg	SW846 6010C

Lab ID: SC51382-02

Client ID: CDW-S61 Dup

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Barium	24.3		1.17	mg/kg	SW846 6010C
Chromium	9.27		1.17	mg/kg	SW846 6010C
Lead	36.2	R06	9.96	mg/kg	SW846 6010C

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification

CDW-S61

SC51382-01

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

23-Oct-18 15:45

Received

24-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3051A

7440-22-4	Silver	< 1.64		mg/kg dry	1.64	0.177	1	SW846 6010C	26-Oct-18	26-Oct-18	SC/TBC	1814133	
7440-38-2	Arsenic	< 1.64		mg/kg dry	1.64	0.208	1	"	"	"	"	"	
7440-39-3	Barium	28.9		mg/kg dry	1.09	0.129	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.546		mg/kg dry	0.546	0.0283	1	"	"	"	"	"	
7440-47-3	Chromium	8.11		mg/kg dry	1.09	0.145	1	"	"	"	"	"	
7439-97-6	Mercury	< 0.0328		mg/kg dry	0.0328	0.0091	1	SW846 7471B	"	29-Oct-18	ABW	1814134	

Prepared by method SW846 3051A

7439-92-1	Lead	33.3	R06	mg/kg dry	9.29	0.232	1	SW846 6010C	"	26-Oct-18	SC/TBC	1814133	
7440-36-0	Antimony	< 5.46		mg/kg dry	5.46	0.411	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.64		mg/kg dry	1.64	0.313	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	88.1			%			1	SM2540 G (11) Mod.	24-Oct-18	24-Oct-18	BD	1814111	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.362		mg/kg dry	0.362	0.286	1	SW846 9012B	26-Oct-18	26-Oct-18	RLT	1814216	
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Sample Identification

CDW-S61 Dup

SC51382-02

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

23-Oct-18 15:46

Received

24-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
Total Metals by EPA 6000/7000 Series Methods													
<u>Prepared by method SW846 3051A</u>													
7440-22-4	Silver	< 1.76		mg/kg dry	1.76	0.190	1	SW846 6010C	26-Oct-18	26-Oct-18	SC/TBC	1814133	
7440-38-2	Arsenic	< 1.76		mg/kg dry	1.76	0.223	1	"	"	"	"	"	
7440-39-3	Barium	24.3		mg/kg dry	1.17	0.138	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.586		mg/kg dry	0.586	0.0304	1	"	"	"	"	"	
7440-47-3	Chromium	9.27		mg/kg dry	1.17	0.156	1	"	"	"	"	"	
7439-97-6	Mercury	< 0.0313		mg/kg dry	0.0313	0.0087	1	SW846 7471B	"	29-Oct-18	ABW	1814134	
<u>Prepared by method SW846 3051A</u>													
7439-92-1	Lead	36.2	R06	mg/kg dry	9.96	0.248	1	SW846 6010C	"	26-Oct-18	SC/TBC	1814133	
7440-36-0	Antimony	< 5.86		mg/kg dry	5.86	0.441	1	"	"	"	"	"	
7782-49-2	Selenium	< 1.76		mg/kg dry	1.76	0.335	1	"	"	"	"	"	
General Chemistry Parameters													
	% Solids	84.0		%			1	SM2540 G (11) Mod.	24-Oct-18	24-Oct-18	BD	1814111	
<u>Prepared by method SW846 9010B</u>													
57-12-5	Cyanide (total)	< 0.339		mg/kg dry	0.339	0.268	1	SW846 9012B	26-Oct-18	26-Oct-18	RLT	1814216	

This laboratory report is not valid without an authorized signature on the cover page.

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SW846 6010C</u>										
Batch 1814133 - SW846 3051A										
<u>Blank (1814133-BLK1)</u>					<u>Prepared & Analyzed: 26-Oct-18</u>					
Chromium	< 0.925		mg/kg wet	0.925						
Silver	< 1.39		mg/kg wet	1.39						
Arsenic	< 1.39		mg/kg wet	1.39						
Cadmium	< 0.462		mg/kg wet	0.462						
Lead	< 7.86		mg/kg wet	7.86						
Antimony	< 4.62		mg/kg wet	4.62						
Selenium	< 1.39		mg/kg wet	1.39						
Barium	< 0.925		mg/kg wet	0.925						
<u>Reference (1814133-SRM1)</u>					<u>Prepared & Analyzed: 26-Oct-18</u>					
Cadmium	99.8		mg/kg wet	0.500	106		94	83.4-116.6		
Silver	18.4		mg/kg wet	1.50	21.8		84	79.9-119.9		
Arsenic	78.6		mg/kg wet	1.50	80.9		97	83.2-116.8		
Chromium	68.4		mg/kg wet	1.00	68.4		100	82.4-117.6		
Lead	53.1		mg/kg wet	8.50	55.8		95	83-117.1		
Antimony	48.4		mg/kg wet	5.00	38.0		127	25-196		
Selenium	94.8		mg/kg wet	1.50	96.0		99	79.6-120.9		
Barium	121		mg/kg wet	1.00	131		92	82.7-117.3		
<u>Reference (1814133-SRM2)</u>					<u>Prepared & Analyzed: 26-Oct-18</u>					
Selenium	98.4		mg/kg wet	1.50	95.6		103	79.6-120.9		
Silver	20.4		mg/kg wet	1.50	21.7		94	79.9-119.9		
Cadmium	101		mg/kg wet	0.500	106		95	83.4-116.6		
Chromium	70.1		mg/kg wet	1.00	68.1		103	82.4-117.6		
Lead	53.4		mg/kg wet	8.50	55.6		96	83-117.1		
Arsenic	80.8		mg/kg wet	1.50	80.6		100	83.2-116.8		
Antimony	60.4		mg/kg wet	5.00	37.8		160	25-196		
Barium	122		mg/kg wet	1.00	130		94	82.7-117.3		
<u>SW846 7471B</u>										
Batch 1814134 - EPA200/SW7000 Series										
<u>Blank (1814134-BLK1)</u>					<u>Prepared: 26-Oct-18 Analyzed: 29-Oct-18</u>					
Mercury	< 0.0291		mg/kg wet	0.0291						
<u>Reference (1814134-SRM1)</u>					<u>Prepared: 26-Oct-18 Analyzed: 29-Oct-18</u>					
Mercury	4.30	D	mg/kg wet	0.600	3.93		109	71.6-128		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>SM2540 G (11) Mod.</u>										
Batch 1814111 - General Preparation										
<u>Duplicate (1814111-DUP1)</u>						<u>Source: SC51382-01</u>		<u>Prepared & Analyzed: 24-Oct-18</u>		
% Solids	88.8		%			88.1			0.8	5
<u>Duplicate (1814111-DUP2)</u>						<u>Source: SC51382-02</u>		<u>Prepared & Analyzed: 24-Oct-18</u>		
% Solids	83.0		%			84.0			1	5
<u>SW846 9012B</u>										
Batch 1814216 - General Preparation										
<u>Blank (1814216-BLK1)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>Blank (1814216-BLK2)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	< 0.500		mg/kg wet	0.500						
<u>LCS (1814216-BS1)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	23.4		mg/kg wet	0.500	25.0		94	90-110		
<u>LCS (1814216-BS2)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	24.0		mg/kg wet	0.500	25.0		96	90-110		
<u>Calibration Blank (1814216-CCB1)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	0.00100		mg/kg wet							
<u>Calibration Blank (1814216-CCB2)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	0.000616		mg/kg wet							
<u>Calibration Blank (1814216-CCB3)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	0.000637		mg/kg wet							
<u>Calibration Blank (1814216-CCB4)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	0.000760		mg/kg wet							
<u>Calibration Check (1814216-CCV1)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	24.8		mg/kg wet	0.500	25.0		99	90-110		
<u>Calibration Check (1814216-CCV2)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	24.5		mg/kg wet	0.500	25.0		98	90-110		
<u>Calibration Check (1814216-CCV3)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	24.3		mg/kg wet	0.500	25.0		97	90-110		
<u>Calibration Check (1814216-CCV4)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	24.4		mg/kg wet	0.500	25.0		98	90-110		
<u>Duplicate (1814216-DUP1)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	< 0.339		mg/kg dry	0.339		BRL				35
<u>Matrix Spike (1814216-MS1)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	11.6	QM7	mg/kg dry	0.314	15.7	BRL	74	90-110		
<u>Matrix Spike Dup (1814216-MSD1)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	14.8		mg/kg dry	0.330	16.5	BRL	90	90-110	24	35
<u>Post Spike (1814216-PS1)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	0.251		mg/l		0.250	0.00146	100	75-125		
<u>Reference (1814216-SRM1)</u>								<u>Prepared & Analyzed: 26-Oct-18</u>		
Cyanide (total)	67.6		mg/kg wet	2.36	94.3		72	22.3-116		

Notes and Definitions

D	Data reported from a dilution
QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
R06	MRL raised to correlate to batch QC reporting limits.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.



Spectrum Analytical

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

Date: 10/10/14

- ☐ Standard TAT - 7 to 10 business days
☒ Rush TAT - Date Needed: 10/10/14
All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: CDW ConsultantsInvoice To: CDW ConsultantsProject No: 1515.20

P.R.P.

Le Huan Duc
Natick, MA 01710Le Huan Duc
Natick MA 01710Site Name: BHAT SuperfundLocation: 300 Fisher Street + Franklin StSampler(s): See LabelState: MATelephone #: See LabelP.O. No: 400Quote #: 12=F=Field Filtered 1-Na₂SO₃ 2-ICl 3-H₂SO₄ 4-HNO₃ 5-NaOH 6-Ascorbic Acid
7-C113O11 8-NaHSO₄ 9-Deionized Water 10-H₃PO₄ 11=400 12=12=

DW=Drinking Water

GW=Groundwater

SW=Surface Water

WW=Waste Water

O=Oil

SO=Soil

SL=Sludge

A=Indoor/Ambient Air

SG=Soil Gas

X1=

X2=

X3=

G-Grab

C-Composite

Lab ID:

Sample ID:

Date:

Time:

Type

Matrix

of VOA Vials

of Amber Glass

of Clear Glass

of Plastic

Containers

Analysis

List Preservative Code below:

Check if chlorinated

QA/QC Reporting Notes:
* additional charges may apply

MSA DEP/RC CAM Report? ☒ Yes ☐ No
C/T/DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC
☐ DQA* ☐ ASP A+ ☐ ASP B+ ☐ NO Reduced* ☐ NO Full* ☐ Tier II* ☐ Tier IV*
☐ Other: _____
Site-specific reporting standards: _____

Relinquished by:

Received by:

Time:

Temp °C

E-mail to:

Condition upon receipt:

Custody Seals:

Present

Intact

Broken

☐ Ambient☐ Iced☒ Refrigerated☐ DV VOA Frozen☐ Soft Jar Frozen

Batch Summary

1814111

General Chemistry Parameters

1814111-DUP1

1814111-DUP2

SC51382-01 (CDW-S61)

SC51382-02 (CDW-S61 Dup)

1814133

Total Metals by EPA 6000/7000 Series Methods

1814133-BLK1

1814133-SRM1

1814133-SRM2

SC51382-01 (CDW-S61)

SC51382-02 (CDW-S61 Dup)

1814134

Total Metals by EPA 6000/7000 Series Methods

1814134-BLK1

1814134-SRM1

SC51382-01 (CDW-S61)

SC51382-02 (CDW-S61 Dup)

1814216

General Chemistry Parameters

1814216-BLK1

1814216-BLK2

1814216-BS1

1814216-BS2

1814216-CCB1

1814216-CCB2

1814216-CCB3

1814216-CCB4

1814216-CCV1

1814216-CCV2

1814216-CCV3

1814216-CCV4

1814216-DUP1

1814216-MS1

1814216-MSD1

1814216-PS1

1814216-SRM1

SC51382-01 (CDW-S61)

SC51382-02 (CDW-S61 Dup)

Laboratory Report SC52101

CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760
Attn: Susan Cahalan-Roach


Project: BJAT LLC Superfund Site - Franklin, MA
Project #: 1515.20

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393



Authorized by:
Rebecca Merz
Quality Services Manager



Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.

Please note that this report contains 16 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our Quality web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

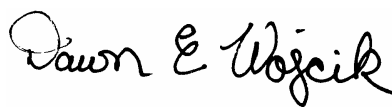
Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC52101
Project: BJAT LLC Superfund Site - Franklin, MA
Project Number: 1515.20

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SC52101-01	CDW-S62A	Soil	19-Nov-18 11:30	20-Nov-18 13:10
SC52101-02	CDW-S62B	Soil	19-Nov-18 11:32	20-Nov-18 13:10
SC52101-03	CDW-S63A	Soil	19-Nov-18 11:40	20-Nov-18 13:10
SC52101-04	CDW-S63B	Soil	19-Nov-18 11:45	20-Nov-18 13:10
SC52101-05	CDW-S64A	Soil	19-Nov-18 12:00	20-Nov-18 13:10
SC52101-06	CDW-S64B	Soil	19-Nov-18 12:05	20-Nov-18 13:10
SC52101-07	CDW-S65A	Soil	19-Nov-18 12:15	20-Nov-18 13:10
SC52101-08	CDW-S65B	Soil	19-Nov-18 12:20	20-Nov-18 13:10

MassDEP Analytical Protocol Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.			Project #: 1515.20		
Project Location: BJAT LLC Superfund Site - Franklin, MA			RTN:		
This form provides certifications for the following data set:			SC52101-01 through SC52101-08		
Matrices: Soil					
CAM Protocol					
8260 VOC CAM II A	7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
✓ 6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	✓ 9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B
<i>Affirmative responses to questions A through F are required for Presumptive Certainty's status</i>					
A	Were all samples received in a condition consistent with those described on the Chain of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?				✓ Yes No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?				✓ Yes No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?				✓ Yes No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?				✓ Yes No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?				Yes No Yes No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to questions A through E)?				✓ Yes No
<i>Responses to questions G, H and I below are required for Presumptive Certainty's status</i>					
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?				Yes ✓ No
Data User Note: Data that achieve <i>Presumptive Certainty's status</i> may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.					
H	Were all QC performance standards specified in the CAM protocol(s) achieved?				Yes ✓ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?				Yes ✓ No
<i>All negative responses are addressed in a case narrative on the cover page of this report.</i>					
<p><i>I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.</i></p> <div style="text-align: right; margin-top: 20px;">  Dawn E. Wojcik Laboratory Director Date: 12/4/2018 </div>					

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 1.7 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 6010C

Laboratory Control Samples:

1815475 SRM/SRMD

Lead percent recoveries (83/79) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

CDW-S62A
CDW-S62B
CDW-S63A
CDW-S63B
CDW-S64A
CDW-S64B
CDW-S65A
CDW-S65B

SW846 9012B

Calibration:

1815597-CCV1

Analyte percent recovery is outside individual acceptance criteria.

Cyanide (total) (%)

1815597-CCV2

Analyte percent recovery is outside individual acceptance criteria.

Cyanide (total) (%)

1815597-CCV3

SW846 9012B

Calibration:

1815597-CCV3

Analyte percent recovery is outside individual acceptance criteria.

Cyanide (total) (%)

Sample Acceptance Check Form

Client: CDW Consultants, Inc.
Project: BJAT LLC Superfund Site - Franklin, MA / 1515.20
Work Order: SC52101
Sample(s) received on: 11/20/2018

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Were custody seals present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were custody seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Were samples received at a temperature of $\leq 6^{\circ}\text{C}$?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples refrigerated upon transfer to laboratory representative?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were sample containers received intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples accompanied by a Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did sample container labels agree with Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples received within method-specific holding times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Summary of Hits

Lab ID: SC52101-01

Client ID: CDW-S62A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Lead	3560		8.60	mg/kg	SW846 6010C
Cyanide (total)	33.2		2.30	mg/kg	SW846 9012B

Lab ID: SC52101-02

Client ID: CDW-S62B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Lead	25.7		1.87	mg/kg	SW846 6010C

Lab ID: SC52101-03

Client ID: CDW-S63A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Lead	162		2.59	mg/kg	SW846 6010C

Lab ID: SC52101-04

Client ID: CDW-S63B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Lead	12.3		1.71	mg/kg	SW846 6010C

Lab ID: SC52101-05

Client ID: CDW-S64A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Lead	7160		3.25	mg/kg	SW846 6010C

Lab ID: SC52101-06

Client ID: CDW-S64B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Lead	12.0		1.77	mg/kg	SW846 6010C

Lab ID: SC52101-07

Client ID: CDW-S65A

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Lead	350		3.39	mg/kg	SW846 6010C

Lab ID: SC52101-08

Client ID: CDW-S65B

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Lead	3.55		1.73	mg/kg	SW846 6010C

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification

CDW-S62A

SC52101-01

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

19-Nov-18 11:30

Received

20-Nov-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7439-92-1	Lead	3,560		mg/kg dry	8.60	1.22	1	SW846 6010C	29-Nov-18	01-Dec-18	SC/EDT	1815475	
7440-36-0	Antimony	< 28.7		mg/kg dry	28.7	2.16	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	16.8		%				1	SM2540 G (11) Mod.	21-Nov-18	21-Nov-18	BD	1815324	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	33.2		mg/kg dry	2.30	1.82	1	SW846 9012B	29-Nov-18	29-Nov-18	RLT	1815597	
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Sample Identification

CDW-S62B

SC52101-02

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

19-Nov-18 11:32

Received

20-Nov-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7439-92-1	Lead	25.7		mg/kg dry	1.87	0.265	1	SW846 6010C	29-Nov-18	01-Dec-18	SC/EDT	1815475	
7440-36-0	Antimony	< 6.25		mg/kg dry	6.25	0.470	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	77.6			%			1	SM2540 G (11) Mod.	21-Nov-18	21-Nov-18	BD	1815324	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.324		mg/kg dry	0.324	0.256	1	SW846 9012B	29-Nov-18	29-Nov-18	RLT	1815597	
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Sample Identification

CDW-S63A

SC52101-03

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

19-Nov-18 11:40

Received

20-Nov-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7439-92-1	Lead	162		mg/kg dry	2.59	0.367	1	SW846 6010C	29-Nov-18	01-Dec-18	SC/EDT	1815475	
7440-36-0	Antimony	< 8.65		mg/kg dry	8.65	0.650	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	55.4			%			1	SM2540 G (11) Mod.	21-Nov-18	21-Nov-18	BD	1815324	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.473		mg/kg dry	0.473	0.374	1	SW846 9012B	29-Nov-18	29-Nov-18	RLT	1815597	
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Sample Identification

CDW-S63B

SC52101-04

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

19-Nov-18 11:45

Received

20-Nov-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7439-92-1	Lead	12.3		mg/kg dry	1.71	0.241	1	SW846 6010C	29-Nov-18	01-Dec-18	SC/EDT	1815475	
7440-36-0	Antimony	< 5.69		mg/kg dry	5.69	0.428	1	"	"	"	"	"	

General Chemistry Parameters

	% Solids	84.4		%			1	SM2540 G (11) Mod.	21-Nov-18	21-Nov-18	BD	1815328	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.341		mg/kg dry	0.341	0.269	1	SW846 9012B	29-Nov-18	29-Nov-18	RLT	1815597	
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Sample Identification

CDW-S64A

SC52101-05

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

19-Nov-18 12:00

Received

20-Nov-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7439-92-1	Lead	7,160		mg/kg dry	3.25	0.460	1	SW846 6010C	29-Nov-18	01-Dec-18	SC/EDT	1815475	
7440-36-0	Antimony	< 10.8		mg/kg dry	10.8	0.815	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	45.8		%				1	SM2540 G (11) Mod.	21-Nov-18	21-Nov-18	BD	1815328	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.725		mg/kg dry	0.725	0.573	1	SW846 9012B	29-Nov-18	29-Nov-18	RLT	1815597	
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Sample Identification

CDW-S64B

SC52101-06

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

19-Nov-18 12:05

Received

20-Nov-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7439-92-1	Lead	12.0		mg/kg dry	1.77	0.250	1	SW846 6010C	29-Nov-18	01-Dec-18	SC/EDT	1815475	
7440-36-0	Antimony	< 5.89		mg/kg dry	5.89	0.443	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	83.5		%				1	SM2540 G (11) Mod.	21-Nov-18	21-Nov-18	BD	1815328	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.364		mg/kg dry	0.364	0.287	1	SW846 9012B	29-Nov-18	29-Nov-18	RLT	1815597	
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Sample Identification

CDW-S65A

SC52101-07

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

19-Nov-18 12:15

Received

20-Nov-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7439-92-1	Lead	350		mg/kg dry	3.39	0.479	1	SW846 6010C	29-Nov-18	01-Dec-18	SC/EDT	1815475	
7440-36-0	Antimony	< 11.3		mg/kg dry	11.3	0.850	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	42.4		%				1	SM2540 G (11) Mod.	21-Nov-18	21-Nov-18	BD	1815328	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.610		mg/kg dry	0.610	0.482	1	SW846 9012B	29-Nov-18	29-Nov-18	RLT	1815597	
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Sample Identification

CDW-S65B

SC52101-08

Client Project #

1515.20

Matrix

Soil

Collection Date/Time

19-Nov-18 12:20

Received

20-Nov-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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Total Metals by EPA 6000/7000 Series MethodsPrepared by method SW846 3050B

7439-92-1	Lead	3.55		mg/kg dry	1.73	0.244	1	SW846 6010C	29-Nov-18	01-Dec-18	SC/EDT	1815475	
7440-36-0	Antimony	< 5.76		mg/kg dry	5.76	0.433	1	"	"	"	"	"	

General Chemistry Parameters

% Solids	80.1		%				1	SM2540 G (11) Mod.	21-Nov-18	21-Nov-18	BD	1815328	
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Prepared by method SW846 9010B

57-12-5	Cyanide (total)	< 0.386		mg/kg dry	0.386	0.305	1	SW846 9012B	29-Nov-18	29-Nov-18	RLT	1815597	
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Notes and Definitions

QC3	The spike recovery is outside acceptable limits for the LCS. The batch was accepted based upon the MS and/or MSD meeting the LCS limits criteria.
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.



Spectrum Analytical

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

☒ Standard TAT - 7 to 10 business days
☐ Rush TAT - Date Needed: _____

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: CDL Consultants

Le Huan Dave
Natick MA 01760

Invoice To:

CDL Consultants
Le Huan Dave
Natick MA 01760

Project No:

1515.00

Site Name:

BJAT Superfund

Location:

300 Fisher St Franklin State: MA

Samples:

Bill Beltrus

Telephone #:

508 261-1000

P.O. No.:

Quote #:

Field Filtered 1-Na₂S₂O₃ 2-HCl 3-H₂SO₄ 4-HNO₃ 5-NaOH 6-Ascorbic Acid
7-CH₃OH 8-NaHSO₄ 9-Deionized Water 10-H₂PO₄ 11= 12=

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water

O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas

X1= X2= X3=

G= Grab C=Composite

Lab ID:

Sample ID:

Date:

Time:

Type

Matrix

of VOA Vials
of Amber Glass
of Clear Glass
of Plastic

Containers

Analysis

List Preservative Code below:

QA/QC Reporting Notes:
* additional charges may apply

MA DEP MCR (CAM Report) ☒ Yes ☐ No
CT DEP RCP Report: ☐ Yes ☐ No

Standard ☐ No QC
DQA* ☐ No
ASP A* ☐ ASP B* ☐ ASP C* ☐ ASP D* ☐ ASP E* ☐ ASP F* ☐ ASP G* ☐ ASP H* ☐ ASP I* ☐ ASP J* ☐ ASP K* ☐ ASP L* ☐ ASP M* ☐ ASP N* ☐ ASP O* ☐ ASP P* ☐ ASP Q* ☐ ASP R* ☐ ASP S* ☐ ASP T* ☐ ASP U* ☐ ASP V* ☐ ASP W* ☐ ASP X* ☐ ASP Y* ☐ ASP Z* ☐ ASP AA* ☐ ASP AB* ☐ ASP AC* ☐ ASP AD* ☐ ASP AE* ☐ ASP AF* ☐ ASP AG* ☐ ASP AH* ☐ ASP AI* ☐ ASP AJ* ☐ ASP AK* ☐ ASP AL* ☐ ASP AM* ☐ ASP AN* ☐ ASP AO* ☐ ASP AP* ☐ ASP AQ* ☐ ASP AR* ☐ ASP AS* ☐ ASP AT* ☐ ASP AU* ☐ ASP AV* ☐ ASP AW* ☐ ASP AX* ☐ ASP AY* ☐ ASP AZ* ☐ ASP BA* ☐ ASP BB* ☐ ASP BC* ☐ ASP BD* ☐ ASP BE* ☐ ASP BF* ☐ ASP BG* ☐ ASP BH* ☐ ASP BI* ☐ ASP BJ* ☐ ASP BK* ☐ ASP BL* ☐ ASP BM* ☐ ASP BN* ☐ ASP BO* ☐ ASP BP* ☐ ASP BQ* ☐ ASP BR* ☐ ASP BS* ☐ ASP BT* ☐ ASP BU* ☐ ASP BV* ☐ ASP BW* ☐ ASP BX* ☐ ASP BY* ☐ ASP BZ* ☐ ASP CA* ☐ ASP CB* ☐ ASP CC* ☐ ASP CD* ☐ ASP CE* ☐ ASP CF* ☐ ASP CG* ☐ ASP CH* ☐ ASP CI* ☐ ASP CJ* ☐ ASP CK* ☐ ASP CL* ☐ ASP CM* ☐ ASP CN* ☐ ASP CO* ☐ ASP CP* ☐ ASP CQ* ☐ ASP CR* ☐ ASP CS* ☐ ASP CT* ☐ ASP CU* ☐ ASP CV* ☐ ASP CW* ☐ ASP CX* ☐ ASP CY* ☐ ASP CZ* ☐ ASP DA* ☐ ASP DB* ☐ ASP DC* ☐ ASP DD* ☐ ASP DE* ☐ ASP DF* ☐ ASP DG* ☐ ASP DH* ☐ ASP DI* ☐ ASP DJ* ☐ ASP DK* ☐ ASP DL* ☐ ASP DM* ☐ ASP DN* ☐ ASP DO* ☐ ASP DP* ☐ ASP DQ* ☐ ASP DR* ☐ ASP DS* ☐ ASP DT* ☐ ASP DU* ☐ ASP DV* ☐ ASP DW* ☐ ASP DX* ☐ ASP DY* ☐ ASP DZ* ☐ ASP EA* ☐ ASP EB* ☐ ASP EC* ☐ ASP ED* ☐ ASP EE* ☐ ASP EF* ☐ ASP EG* ☐ ASP EH* ☐ ASP EI* ☐ ASP EJ* ☐ ASP EK* ☐ ASP EL* ☐ ASP EM* ☐ ASP EN* ☐ ASP EO* ☐ ASP EP* ☐ ASP EQ* ☐ ASP ER* ☐ ASP ES* ☐ ASP ET* ☐ ASP EU* ☐ ASP EV* ☐ ASP EW* ☐ ASP EX* ☐ ASP EY* ☐ ASP EZ* ☐ ASP FA* ☐ ASP FB* ☐ ASP FC* ☐ ASP FD* ☐ ASP FE* ☐ ASP FF* ☐ ASP FG* ☐ ASP FH* ☐ ASP FI* ☐ ASP FJ* ☐ ASP FK* ☐ ASP FL* ☐ ASP FM* ☐ ASP FN* ☐ ASP FO* ☐ ASP FP* ☐ ASP FQ* ☐ ASP FR* ☐ ASP FS* ☐ ASP FT* ☐ ASP FU* ☐ ASP FV* ☐ ASP FW* ☐ ASP FX* ☐ ASP FY* ☐ ASP FZ* ☐ ASP GA* ☐ ASP GB* ☐ ASP GC* ☐ ASP GD* ☐ ASP GE* ☐ ASP GF* ☐ ASP GH* ☐ ASP GI* ☐ ASP GJ* ☐ ASP GK* ☐ ASP GL* ☐ ASP GM* ☐ ASP GN* ☐ ASP GO* ☐ ASP GP* ☐ ASP GQ* ☐ ASP GR* ☐ ASP GS* ☐ ASP GT* ☐ ASP GU* ☐ ASP GV* ☐ ASP GW* ☐ ASP GX* ☐ ASP GY* ☐ ASP GZ* ☐ ASP HA* ☐ ASP HB* ☐ ASP HC* ☐ ASP HD* ☐ ASP HE* ☐ ASP HF* ☐ ASP HG* ☐ ASP HI* ☐ ASP HJ* ☐ ASP HK* ☐ ASP HL* ☐ ASP HM* ☐ ASP HN* ☐ ASP HO* ☐ ASP HP* ☐ ASP HQ* ☐ ASP HR* ☐ ASP HS* ☐ ASP HT* ☐ ASP HU* ☐ ASP HV* ☐ ASP HW* ☐ ASP HX* ☐ ASP HY* ☐ ASP HZ* ☐ ASP IA* ☐ ASP IB* ☐ ASP IC* ☐ ASP ID* ☐ ASP IE* ☐ ASP IF* ☐ ASP IG* ☐ ASP IH* ☐ ASP II* ☐ ASP IJ* ☐ ASP IK* ☐ ASP IL* ☐ ASP IM* ☐ ASP IN* ☐ ASP IO* ☐ ASP IP* ☐ ASP IQ* ☐ ASP IR* ☐ ASP IS* ☐ ASP IT* ☐ ASP IU* ☐ ASP IV* ☐ ASP IW* ☐ ASP IX* ☐ ASP IY* ☐ ASP IZ* ☐ ASP JA* ☐ ASP JB* ☐ ASP JC* ☐ ASP JD* ☐ ASP JE* ☐ ASP JF* ☐ ASP JG* ☐ ASP JH* ☐ ASP JI* ☐ ASP JJ* ☐ ASP JK* ☐ ASP JL* ☐ ASP JM* ☐ ASP JN* ☐ ASP JO* ☐ ASP JP* ☐ ASP JQ* ☐ ASP JR* ☐ ASP JS* ☐ ASP JT* ☐ ASP JU* ☐ ASP JV* ☐ ASP JW* ☐ ASP JX* ☐ ASP JY* ☐ ASP JZ* ☐ ASP KA* ☐ ASP KB* ☐ ASP KC* ☐ ASP KD* ☐ ASP KE* ☐ ASP KF* ☐ ASP KG* ☐ ASP KH* ☐ ASP KI* ☐ ASP KJ* ☐ ASP KK* ☐ ASP KL* ☐ ASP KM* ☐ ASP KN* ☐ ASP KO* ☐ ASP KP* ☐ ASP KQ* ☐ ASP KR* ☐ ASP KS* ☐ ASP KT* ☐ ASP KU* ☐ ASP KV* ☐ ASP KW* ☐ ASP KX* ☐ ASP KY* ☐ ASP KZ* ☐ ASP LA* ☐ ASP LB* ☐ ASP LC* ☐ ASP LD* ☐ ASP LE* ☐ ASP LF* ☐ ASP LG* ☐ ASP LH* ☐ ASP LI* ☐ ASP LJ* ☐ ASP LK* ☐ ASP LL* ☐ ASP LM* ☐ ASP LN* ☐ ASP LO* ☐ ASP LP* ☐ ASP LQ* ☐ ASP LR* ☐ ASP LS* ☐ ASP LT* ☐ ASP LU* ☐ ASP LV* ☐ ASP LW* ☐ ASP LX* ☐ ASP LY* ☐ ASP LZ* ☐ ASP MA* ☐ ASP MB* ☐ ASP MC* ☐ ASP MD* ☐ ASP ME* ☐ ASP MF* ☐ ASP MG* ☐ ASP MH* ☐ ASP MI* ☐ ASP MJ* ☐ ASP MK* ☐ ASP ML* ☐ ASP MM* ☐ ASP MN* ☐ ASP MO* ☐ ASP MP* ☐ ASP MQ* ☐ ASP MR* ☐ ASP MS* ☐ ASP MT* ☐ ASP MU* ☐ ASP MV* ☐ ASP MW* ☐ ASP MX* ☐ ASP MY* ☐ ASP MZ* ☐ ASP NA* ☐ ASP NB* ☐ ASP NC* ☐ ASP ND* ☐ ASP NE* ☐ ASP NF* ☐ ASP NG* ☐ ASP NH* ☐ ASP NI* ☐ ASP NJ* ☐ ASP NK* ☐ ASP NL* ☐ ASP NM* ☐ ASP NO* ☐ ASP NP* ☐ ASP NQ* ☐ ASP NR* ☐ ASP NS* ☐ ASP NT* ☐ ASP NU* ☐ ASP NV* ☐ ASP NW* ☐ ASP NX* ☐ ASP NY* ☐ ASP NZ* ☐ ASP OA* ☐ ASP OB* ☐ ASP OC* ☐ ASP OD* ☐ ASP OE* ☐ ASP OF* ☐ ASP OG* ☐ ASP OH* ☐ ASP OI* ☐ ASP OJ* ☐ ASP OK* ☐ ASP OL* ☐ ASP OM* ☐ ASP ON* ☐ ASP OO* ☐ ASP OP* ☐ ASP OQ* ☐ ASP OR* ☐ ASP OS* ☐ ASP OT* ☐ ASP OU* ☐ ASP OV* ☐ ASP OW* ☐ ASP OX* ☐ ASP OY* ☐ ASP OZ* ☐ ASP PA* ☐ ASP PB* ☐ ASP PC* ☐ ASP PD* ☐ ASP PE* ☐ ASP PF* ☐ ASP PG* ☐ ASP PH* ☐ ASP PI* ☐ ASP PJ* ☐ ASP PK* ☐ ASP PL* ☐ ASP PM* ☐ ASP PN* ☐ ASP PO* ☐ ASP PP* ☐ ASP PQ* ☐ ASP PR* ☐ ASP PS* ☐ ASP PT* ☐ ASP PU* ☐ ASP PV* ☐ ASP PW* ☐ ASP PX* ☐ ASP PY* ☐ ASP PZ* ☐ ASP QA* ☐ ASP QB* ☐ ASP QC* ☐ ASP QD* ☐ ASP QE* ☐ ASP QF* ☐ ASP QG* ☐ ASP QH* ☐ ASP QI* ☐ ASP QJ* ☐ ASP QK* ☐ ASP QL* ☐ ASP QM* ☐ ASP QN* ☐ ASP QO* ☐ ASP QP* ☐ ASP QQ* ☐ ASP QR* ☐ ASP QS* ☐ ASP QT* ☐ ASP QU* ☐ ASP QV* ☐ ASP QW* ☐ ASP QX* ☐ ASP QY* ☐ ASP QZ* ☐ ASP RA* ☐ ASP RB* ☐ ASP RC* ☐ ASP RD* ☐ ASP RE* ☐ ASP RF* ☐ ASP RG* ☐ ASP RH* ☐ ASP RI* ☐ ASP RJ* ☐ ASP RK* ☐ ASP RL* ☐ ASP RM* ☐ ASP RN* ☐ ASP RO* ☐ ASP RP* ☐ ASP RQ* ☐ ASP RR* ☐ ASP RS* ☐ ASP RT* ☐ ASP RU* ☐ ASP RV* ☐ ASP RW* ☐ ASP RX* ☐ ASP RY* ☐ ASP RZ* ☐ ASP SA* ☐ ASP SB* ☐ ASP SC* ☐ ASP SD* ☐ ASP SE* ☐ ASP SF* ☐ ASP SG* ☐ ASP SH* ☐ ASP SI* ☐ ASP SJ* ☐ ASP SK* ☐ ASP SL* ☐ ASP SM* ☐ ASP SN* ☐ ASP SO* ☐ ASP SP* ☐ ASP SQ* ☐ ASP SR* ☐ ASP SS* ☐ ASP ST* ☐ ASP SU* ☐ ASP SV* ☐ ASP SW* ☐ ASP SX* ☐ ASP SY* ☐ ASP SZ* ☐ ASP TA* ☐ ASP TB* ☐ ASP TC* ☐ ASP TD* ☐ ASP TE* ☐ ASP TF* ☐ ASP TG* ☐ ASP TH* ☐ ASP TI* ☐ ASP TJ* ☐ ASP TK* ☐ ASP TL* ☐ ASP TM* ☐ ASP TN* ☐ ASP TO* ☐ ASP TP* ☐ ASP TQ* ☐ ASP TR* ☐ ASP TS* ☐ ASP TT* ☐ ASP TU* ☐ ASP TV* ☐ ASP TW* ☐ ASP TX* ☐ ASP TY* ☐ ASP TZ* ☐ ASP UA* ☐ ASP UB* ☐ ASP UC* ☐ ASP UD* ☐ ASP UE* ☐ ASP UF* ☐ ASP UG* ☐ ASP UH* ☐ ASP UI* ☐ ASP UJ* ☐ ASP UK* ☐ ASP UL* ☐ ASP UM* ☐ ASP UN* ☐ ASP UO* ☐ ASP UP* ☐ ASP UQ* ☐ ASP UR* ☐ ASP US* ☐ ASP UT* ☐ ASP UY* ☐ ASP UZ* ☐ ASP VA* ☐ ASP VB* ☐ ASP VC* ☐ ASP VD* ☐ ASP VE* ☐ ASP VF* ☐ ASP VG* ☐ ASP VH* ☐ ASP VI* ☐ ASP VJ* ☐ ASP VK* ☐ ASP VL* ☐ ASP VM* ☐ ASP VN* ☐ ASP VO* ☐ ASP VP* ☐ ASP VQ* ☐ ASP VR* ☐ ASP VS* ☐ ASP VT* ☐ ASP VU* ☐ ASP VV* ☐ ASP VW* ☐ ASP VX* ☐ ASP VY* ☐ ASP VZ* ☐ ASP WA* ☐ ASP WB* ☐ ASP WC* ☐ ASP WD* ☐ ASP WE* ☐ ASP WF* ☐ ASP WG* ☐ ASP WH* ☐ ASP WI* ☐ ASP WJ* ☐ ASP WK* ☐ ASP WL* ☐ ASP WM* ☐ ASP WN* ☐ ASP WO* ☐ ASP WP* ☐ ASP WQ* ☐ ASP WR* ☐ ASP WS* ☐ ASP WT* ☐ ASP WY* ☐ ASP WZ* ☐ ASP XA* ☐ ASP XB* ☐ ASP XC* ☐ ASP XD* ☐ ASP XE* ☐ ASP XF* ☐ ASP XG* ☐ ASP XH* ☐ ASP XI* ☐ ASP XJ* ☐ ASP XK* ☐ ASP XL* ☐ ASP XM* ☐ ASP XN* ☐ ASP XO* ☐ ASP XP* ☐ ASP XQ* ☐ ASP XR* ☐ ASP XS* ☐ ASP XT* ☐ ASP XU* ☐ ASP XV* ☐ ASP XW* ☐ ASP XX* ☐ ASP XY* ☐ ASP XZ* ☐ ASP YA* ☐ ASP YB* ☐ ASP YC* ☐ ASP YD* ☐ ASP YE* ☐ ASP YF* ☐ ASP YG* ☐ ASP YH* ☐ ASP YI* ☐ ASP YJ* ☐ ASP YK* ☐ ASP YL* ☐ ASP YM* ☐ ASP YN* ☐ ASP YO* ☐ ASP YP* ☐ ASP YQ* ☐ ASP YR* ☐ ASP YS* ☐ ASP YT* ☐ ASP YU* ☐ ASP YV* ☐ ASP YW* ☐ ASP YX* ☐ ASP YY* ☐ ASP YZ* ☐ ASP ZA* ☐ ASP ZB* ☐ ASP ZC* ☐ ASP ZD* ☐ ASP ZE* ☐ ASP ZF* ☐ ASP ZG* ☐ ASP ZH* ☐ ASP ZI* ☐ ASP ZJ* ☐ ASP ZK* ☐ ASP ZL* ☐ ASP ZM* ☐ ASP ZN* ☐ ASP ZO* ☐ ASP ZP* ☐ ASP ZQ* ☐ ASP ZR* ☐ ASP ZS* ☐ ASP ZT* ☐ ASP ZU* ☐ ASP ZV* ☐ ASP ZW* ☐ ASP ZX* ☐ ASP ZY* ☐ ASP ZZ

Check if chlorinated

State-specific reporting standards

Charges made per client request
On 11/26

Relinquished by:

Received by:

Date:

Time:

Temp °C

Observed

Correction Factor

Condition upon receipt:

Custody Seals:

Present

Intact

Broken

Refrigerated

Soil Jar Frozen

Other:

State-specific reporting standards

Condition upon receipt:

Custody Seals:

Present

Intact

Broken

Refrigerated

Soil Jar Frozen

Other:

State-specific reporting standards

Condition upon receipt:

Custody Seals:

Present

Intact

Broken

Refrigerated

Soil Jar Frozen

Other:

State-specific reporting standards

Condition upon receipt:

Custody Seals:

Present

Intact

Broken

Refrigerated

Soil Jar Frozen

Other:

State-specific reporting standards

Condition upon receipt:

Custody Seals:

Present

Intact

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Refrigerated

Soil Jar Frozen

Other:

State-specific reporting standards

Condition upon receipt:

Custody Seals:

Present

Intact

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Refrigerated

Soil Jar Frozen

Other:

State-specific reporting standards

Condition upon receipt:

Custody Seals:

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State-specific reporting standards

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Custody Seals:

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Custody Seals:

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Soil Jar Frozen

Other:

State-specific reporting standards

Condition upon receipt:

Custody Seals:

Present

Intact

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Refrigerated

Soil Jar Frozen

Other:

State-specific reporting standards

Condition upon receipt:

Custody Seals:

Present

Intact

Broken

Refrigerated

Soil Jar Frozen

Other:

State-specific reporting standards

Condition upon receipt:

Custody Seals:

Present

Intact

Broken

Refrigerated

Soil Jar Frozen

APPENDIX D



September 19, 2018: Aerial Drone View



September 19, 2018: Aerial Drone View



September 11, 2018: Drum Area-1



September 11, 2018: Drum Area-2



September 11, 2018: Drum Area-3



September 11, 2018: Drum Area -4



September 11, 2018: Drum Area-5



September 11, 2018: Drum Area-6



September 11, 2018: Drum Area -7



September 11, 2018: Drum Area 8



September 11, 2018: Drum Area 9



September 19, 2018: Removing drum with white waxy material from DM-2



Sept 24, 2018: Removal of rubber chunks on surface by DM-5



September 24, 2018: Rubber chunks from DM-5



September 19, 2018: Overpacking Drums from DM-2



September 27, 2018: excavation at southern end, view towards the north



October 1, 2018: Excavation at northern end filling with water



October 1, 2018: Soil stockpiling



October 4, 2018: Soil sampling the sidewall of northern end



October 4, 2018: Aerial drone view



October 8, 2018: Drum area-10, hillside northern end of excavation



October 8, 2018: Overpacking a drum with remnant pink paint removed from top of hillside drum area DM-10



October 8, 2018: View of excavation, toward the south



October 8, 2018: Northern end of excavation, blue stakes are soil sample locations



October 8, 2018: Soil sampling



October 9, 2018: View of southern end of excavation, blue stakes are soil sample locations



October 11, 2018: Southern end of excavation being prepared for backfill



October 17, 2018: Drone view of excavation with partial backfill



October 19, 2018: Backfilling excavation



November 6, 2018: Excavation backfilling looking south



February 27, 2019: Backfilled excavation, view toward south



February 27, 2019: Aerial drone view of excavation area



April 11, 2019: Filled excavation with jute matting



April 11, 2019: post excavation



April 11, 2019: Post excavation

APPENDIX E



United States Environmental Protection Agency – Region 1

Off-Site Rule Compliance Request Form

Date: 11/01/2018		Supporting Documentation Required-Attached? YES	
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RECEIVING FACILITY INFORMATION:

1	Name of Facility receiving CERCLA waste:	ENPRO Services of VT, Inc.
2	Address of Facility:	54 Avenue D
3	City:	Williston
4	State:	VT
5	Zip Code:	05495
6	EPA/State Facility ID: (e.g. Haz. Waste/Municipal Waste ID)	VTR000517052
7	Other Pertinent ID Numbers: (e.g. License #, permit #)	Various
8	Phone Number (if available):	802.860.1200
9	Contact Name (if available):	Jeffrey Baker, General Manager
10	FAX Number (if available):	n/a
11	E-mail address (if available):	jbaker@nrcc.com

GENERATING FACILITY INFORMATION:

12	CERCLA Site Name:	BJAT LLC
13	CERCLA Site Address:	300 Fisher Street
14	City:	Franklin
15	State:	MA
16	Zip Code:	02038
17	CERCLA Site ID: (i.e. alpha-numeric)	MAN000106144
18	EPA CERCLA ID #:	MAN000106144
19	Waste Media: (e.g., Soil, Water, Air, etc.)	Rubber w/Debris mixed with Soil
20	CERCLA Hazardous Waste Contaminates: (e.g. tce, lead)	TCLP Pb
21	Amount of CERCLA Waste: (e.g. gallons, pounds, tons, ft ³ , yd ³)	8 Cubic Yards
22	EPA representative making waste determination: (e.g. OSC, RPM & Tel.#)	N/A – PRP lead project
23	Basis of Waste Determination: (e.g. analyses, TCLP, etc.)	Please see attached laboratory data Sample ID “Drum Waste”



United States Environmental Protection Agency – Region 1

Off-Site Rule Compliance Request Form

Date: 12/27/2018		Supporting Documentation Required-Attached? YES	
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RECEIVING FACILITY INFORMATION:

1	Name of Facility receiving CERCLA waste:	Tradebe Treatment and Recycling Northeast, LLC
2	Address of Facility:	136 Gracey Avenue
3	City:	Meriden
4	State:	CT
5	Zip Code:	06451
6	EPA/State Facility ID: (e.g. Haz. Waste/Municipal Waste ID)	CTD021816889
7	Other Pertinent ID Numbers: (e.g. License #, permit #)	n/a
8	Phone Number (if available):	203.238.6751
9	Contact Name (if available):	John Curley (NRC)
10	FAX Number (if available):	CELL PHONE 978.992.2533
11	E-mail address (if available):	jcurley@nrcc.com

GENERATING FACILITY INFORMATION:

12	CERCLA Site Name:	BJAT LLC
13	CERCLA Site Address:	300 Fisher Street
14	City:	Franklin
15	State:	MA
16	Zip Code:	02038
17	CERCLA Site ID: (i.e. alpha-numeric)	MAN000106144
18	EPA CERCLA ID #:	MAN000106144
19	Waste Media: (e.g., Soil, Water, Air, etc.)	A/F (liquids/solids); K/N (liquids); R (liquids)
20	CERCLA Hazardous Waste Contaminates: (e.g. tce, lead)	A/F (D006, D040, D043); K/N (n/a); R (D006)
21	Amount of CERCLA Waste: (e.g. gallons, pounds, tons, ft ³ , yd ³)	A/F (2 drums); K/N (2 drums); R (1 drum)
22	EPA representative making waste determination: (e.g. OSC, RPM & Tel.#)	N/A – PRP lead project
23	Basis of Waste Determination: (e.g. analyses, TCLP, etc.)	Please see attached laboratory data Sample ID “A, F”, “K, N”, and “R”



United States Environmental Protection Agency – Region 1

Off-Site Rule Compliance Request Form

Date: 12/27/2018		Supporting Documentation Required-Attached? YES	
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RECEIVING FACILITY INFORMATION:

1	Name of Facility receiving CERCLA waste:	US Ecology/Stablex Canada Inc.
2	Address of Facility:	760 Industrial Boulevard
3	City:	Blainville
4	State:	QC
5	Zip Code:	J7C 3V4
6	EPA/State Facility ID: (e.g. Haz. Waste/Municipal Waste ID)	NYD980756415
7	Other Pertinent ID Numbers: (e.g. License #, permit #)	Various
8	Phone Number (if available):	978.465.1595
9	Contact Name (if available):	John Curley (NRC)
10	FAX Number (if available):	n/a
11	E-mail address (if available):	jcurley@nrcc.com

GENERATING FACILITY INFORMATION:

12	CERCLA Site Name:	BJAT LLC
13	CERCLA Site Address:	300 Fisher Street
14	City:	Franklin
15	State:	MA
16	Zip Code:	02038
17	CERCLA Site ID: (i.e. alpha-numeric)	MAN000106144
18	EPA CERCLA ID #:	MAN000106144
19	Waste Media: (e.g., Soil, Water, Air, etc.)	G/H/J/L/P/S/T/U/V (solid)
20	CERCLA Hazardous Waste Contaminates: (e.g. tce, lead)	G/H/J/L/P/S/T/U/V (D006, D008)
21	Amount of CERCLA Waste: (e.g. gallons, pounds, tons, ft ³ , yd ³)	G/H/J/L/P/S/T/U/V (9 drums)
22	EPA representative making waste determination: (e.g. OSC, RPM & Tel.#)	N/A – PRP lead project
23	Basis of Waste Determination: (e.g. analyses, TCLP, etc.)	Please see attached laboratory data Sample ID “H, J, L, P, S” and “Drum Waste”



United States Environmental Protection Agency – Region 1

Off-Site Rule Compliance Request Form

Date: 12/26/2018		Supporting Documentation Required-Attached? YES	
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RECEIVING FACILITY INFORMATION:

1	Name of Facility receiving CERCLA waste:	US Ecology/Stablex Canada Inc.
2	Address of Facility:	760 Industrial Boulevard
3	City:	Blainville
4	State:	QC
5	Zip Code:	J7C 3V4
6	EPA/State Facility ID: (e.g. Haz. Waste/Municipal Waste ID)	NYD980756415
7	Other Pertinent ID Numbers: (e.g. License #, permit #)	Various
8	Phone Number (if available):	978.465.1595
9	Contact Name (if available):	John Curley (NRC)
10	FAX Number (if available):	n/a
11	E-mail address (if available):	jcurley@nrcc.com

GENERATING FACILITY INFORMATION:

12	CERCLA Site Name:	BJAT LLC
13	CERCLA Site Address:	300 Fisher Street
14	City:	Franklin
15	State:	MA
16	Zip Code:	02038
17	CERCLA Site ID: (i.e. alpha-numeric)	MAN000106144
18	EPA CERCLA ID #:	MAN000106144
19	Waste Media: (e.g., Soil, Water, Air, etc.)	Q (solid)
20	CERCLA Hazardous Waste Contaminates: (e.g. tce, lead)	Q (D006, D008)
21	Amount of CERCLA Waste: (e.g. gallons, pounds, tons, ft ³ , yd ³)	Q (1 drum)
22	EPA representative making waste determination: (e.g. OSC, RPM & Tel.#)	N/A – PRP lead project
23	Basis of Waste Determination: (e.g. analyses, TCLP, etc.)	Please see attached laboratory data Sample ID “Q”



United States Environmental Protection Agency – Region 1

Off-Site Rule Compliance Request Form

Date: 11/01/2018		Supporting Documentation Required-Attached? YES	
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RECEIVING FACILITY INFORMATION:

1	Name of Facility receiving CERCLA waste:	Casella Waste USA/Coventry Landfill
2	Address of Facility:	403 Landfill Lane
3	City:	Coventry
4	State:	VT
5	Zip Code:	05825
6	EPA/State Facility ID: (e.g. Haz. Waste/Municipal Waste ID)	n/a
7	Other Pertinent ID Numbers: (e.g. License #, permit #)	Operating Certification: OL510
8	Phone Number (if available):	978.970.0500
9	Contact Name (if available):	Gary Buckman, BHE
10	FAX Number (if available):	n/a
11	E-mail address (if available):	gbuckman@bhenv.com

GENERATING FACILITY INFORMATION:

12	CERCLA Site Name:	BJAT LLC
13	CERCLA Site Address:	300 Fisher Street
14	City:	Franklin
15	State:	MA
16	Zip Code:	02038
17	CERCLA Site ID: (i.e. alpha-numeric)	MAN000106144
18	EPA CERCLA ID #:	MAN000106144
19	Waste Media: (e.g., Soil, Water, Air, etc.)	Soil
20	CERCLA Hazardous Waste Contaminates: (e.g. tce, lead)	NON-RCRA (following treatment)
21	Amount of CERCLA Waste: (e.g. gallons, pounds, tons, ft ³ , yd ³)	Estimated 2,500 tons
22	EPA representative making waste determination: (e.g. OSC, RPM & Tel.#)	N/A – PRP lead project
23	Basis of Waste Determination: (e.g. analyses, TCLP, etc.)	Please see attached laboratory data Sample ID “MID Waste”



United States Environmental Protection Agency – Region 1

Off-Site Rule Compliance Request Form

Date: 11/01/2018		Supporting Documentation Required-Attached? YES	
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RECEIVING FACILITY INFORMATION:

1	Name of Facility receiving CERCLA waste:	Waste Management Turnkey Landfill
2	Address of Facility:	90 Rochester Neck Road
3	City:	Rochester
4	State:	NH
5	Zip Code:	03839
6	EPA/State Facility ID:(e.g. Haz. Waste/Municipal Waste ID)	n/a
7	Other Pertinent ID Numbers: (e.g. License #, permit #)	Site Specific: WPR-4179 Solid Waste Management Facility Standard Permit: DES-SW-SP-95001 Solid Waste Management Permit: DES-SW-SP-95001 Solid Waste Management Permit: DES-SW-SP-95001
8	Phone Number (if available):	978.970.0500
9	Contact Name (if available):	Gary Buckman, BHE
10	FAX Number (if available):	n/a
11	E-mail address (if available):	gbuckman@bhenv.com

GENERATING FACILITY INFORMATION:

12	CERCLA Site Name:	BJAT LLC
13	CERCLA Site Address:	300 Fisher Street
14	City:	Franklin
15	State:	MA
16	Zip Code:	02038
17	CERCLA Site ID: (i.e. alpha-numeric)	MAN000106144
18	EPA CERCLA ID #:	MAN000106144
19	Waste Media: (e.g., Soil, Water, Air, etc.)	Soil
20	CERCLA Hazardous Waste Contaminates: (e.g. tce, lead)	NON-RCRA (following treatment)
21	Amount of CERCLA Waste: (e.g. gallons, pounds, tons, ft³, yd³)	Estimated 2,500 tons

22	EPA representative making waste determination: (e.g. OSC, RPM & Tel.#)	N/A – PRP lead project
23	Basis of Waste Determination: (e.g. analyses, TCLP, etc.)	Please see attached laboratory data Sample ID “MID Waste”



United States Environmental Protection Agency – Region 1

Off-Site Rule Compliance Request Form

Date: 11/01/2018		Supporting Documentation Required-Attached? YES	
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RECEIVING FACILITY INFORMATION:

1	Name of Facility receiving CERCLA waste:	Waste Management Fitchburg /Westminster Landfill
2	Address of Facility:	101 Fitchburg Road
3	City:	Westminster
4	State:	MA
5	Zip Code:	01473
6	EPA/State Facility ID:(e.g. Haz. Waste/Municipal Waste ID)	n/a
7	Other Pertinent ID Numbers: (e.g. License #, permit #)	Landfill WW015021
8	Phone Number (if available):	978.970.0500
9	Contact Name (if available):	Gary Buckman, BHE
10	FAX Number (if available):	n/a
11	E-mail address (if available):	gbuckman@bhenv.com

GENERATING FACILITY INFORMATION:

12	CERCLA Site Name:	BJAT LLC
13	CERCLA Site Address:	300 Fisher Street
14	City:	Franklin
15	State:	MA
16	Zip Code:	02038
17	CERCLA Site ID: (i.e. alpha-numeric)	MAN000106144
18	EPA CERCLA ID #:	MAN000106144
19	Waste Media: (e.g., Soil, Water, Air, etc.)	Soil
20	CERCLA Hazardous Waste Contaminates: (e.g. tce, lead)	NON-RCRA
21	Amount of CERCLA Waste: (e.g. gallons, pounds, tons, ft ³ , yd ³)	Estimated 2,000 tons
22	EPA representative making waste determination: (e.g. OSC, RPM & Tel.#)	N/A – PRP lead project
23	Basis of Waste Determination: (e.g. analyses, TCLP, etc.)	Please see attached laboratory data Sample ID “N/S Waste”



United States Environmental Protection Agency – Region 1

Off-Site Rule Compliance Request Form

Date: 11/01/2018		Supporting Documentation Required-Attached? YES	
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RECEIVING FACILITY INFORMATION:

1	Name of Facility receiving CERCLA waste:	Waste Management Taunton Landfill
2	Address of Facility:	330 East Britannia Street
3	City:	Taunton
4	State:	MA
5	Zip Code:	02780
6	EPA/State Facility ID: (e.g. Haz. Waste/Municipal Waste ID)	n/a
7	Other Pertinent ID Numbers: (e.g. License #, permit #)	Landfill X270848 & X271048
8	Phone Number (if available):	978.970.0500
9	Contact Name (if available):	Gary Buckman, BHE
10	FAX Number (if available):	n/a
11	E-mail address (if available):	gbuckman@bhenv.com

GENERATING FACILITY INFORMATION:

12	CERCLA Site Name:	BJAT LLC
13	CERCLA Site Address:	300 Fisher Street
14	City:	Franklin
15	State:	MA
16	Zip Code:	02038
17	CERCLA Site ID: (i.e. alpha-numeric)	MAN000106144
18	EPA CERCLA ID #:	MAN000106144
19	Waste Media: (e.g., Soil, Water, Air, etc.)	Soil
20	CERCLA Hazardous Waste Contaminates: (e.g. tce, lead)	NON-RCRA
21	Amount of CERCLA Waste: (e.g. gallons, pounds, tons, ft ³ , yd ³)	Estimated 2,000 tons
22	EPA representative making waste determination: (e.g. OSC, RPM & Tel.#)	N/A – PRP lead project
23	Basis of Waste Determination: (e.g. analyses, TCLP, etc.)	Please see attached laboratory data Sample ID “N/S Waste”



United States Environmental Protection Agency – Region 5

Off-Site Rule Compliance Request Form

Date: 12/27/2018		Supporting Documentation Required-Attached? YES	
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RECEIVING FACILITY INFORMATION:

1	Name of Facility receiving CERCLA waste:	EQ Detroit, Inc.
2	Address of Facility:	1923 Frederick Street
3	City:	Detroit
4	State:	MI
5	Zip Code:	48211
6	EPA/State Facility ID: (e.g. Haz. Waste/Municipal Waste ID)	MID980991566
7	Other Pertinent ID Numbers: (e.g. License #, permit #)	n/a
8	Phone Number (if available):	313.923.0080
9	Contact Name (if available):	John Curley (NRC)
10	FAX Number (if available):	CELL PHONE 978.992.2533
11	E-mail address (if available):	jcurley@nrcc.com

GENERATING FACILITY INFORMATION:

12	CERCLA Site Name:	BJAT LLC
13	CERCLA Site Address:	300 Fisher Street
14	City:	Franklin
15	State:	MA
16	Zip Code:	02038
17	CERCLA Site ID: (i.e. alpha-numeric)	MAN000106144
18	EPA CERCLA ID #:	MAN000106144
19	Waste Media: (e.g., Soil, Water, Air, etc.)	B/C/W (liquid/solid); X (liquid/solid); PPE (solid)
20	CERCLA Hazardous Waste Contaminates: (e.g. tce, lead)	B/C/W (D006); X (n/a); PPE (n/a)
21	Amount of CERCLA Waste: (e.g. gallons, pounds, tons, ft ³ , yd ³)	B/C/W (3 drums); X (1 drum); PPE (5 drums)
22	EPA representative making waste determination: (e.g. OSC, RPM & Tel.#)	N/A – PRP lead project
23	Basis of Waste Determination: (e.g. analyses, TCLP, etc.)	Please see attached laboratory data Sample ID “B, C, W” and “X” and generator knowledge.



United States Environmental Protection Agency – Region 5

Off-Site Rule Compliance Request Form

Date: 12/27/2018		Supporting Documentation Required-Attached? YES	
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RECEIVING FACILITY INFORMATION:

1	Name of Facility receiving CERCLA waste:	Tradebe Treatment and Recycling, LLC
2	Address of Facility:	4343 Kennedy Avenue
3	City:	East Chicago
4	State:	IN
5	Zip Code:	46312
6	EPA/State Facility ID: (e.g. Haz. Waste/Municipal Waste ID)	IND000646943
7	Other Pertinent ID Numbers: (e.g. License #, permit #)	n/a
8	Phone Number (if available):	219.397.3951
9	Contact Name (if available):	John Curley (NRC)
10	FAX Number (if available):	CELL PHONE 978.992.2533
11	E-mail address (if available):	jcurley@nrcc.com

GENERATING FACILITY INFORMATION:

12	CERCLA Site Name:	BJAT LLC
13	CERCLA Site Address:	300 Fisher Street
14	City:	Franklin
15	State:	MA
16	Zip Code:	02038
17	CERCLA Site ID: (i.e. alpha-numeric)	MAN000106144
18	EPA CERCLA ID #:	MAN000106144
19	Waste Media: (e.g., Soil, Water, Air, etc.)	D/I/O/Y/Z/AA (liquid/sludge)
20	CERCLA Hazardous Waste Contaminates: (e.g. tce, lead)	D/I/O/Y/Z/AA (D001)
21	Amount of CERCLA Waste: (e.g. gallons, pounds, tons, ft ³ , yd ³)	D/I/O/Y/Z/AA (6 drums)
22	EPA representative making waste determination: (e.g. OSC, RPM & Tel.#)	N/A – PRP lead project
23	Basis of Waste Determination: (e.g. analyses, TCLP, etc.)	Generator knowledge